A STUDY TO ASSESS THE EFFECT OF SELECTED CALISTHENICS ON QUALITY OF SLEEP AND WELLBEING AMONG OLD AGE PEOPLE IN A SELECTED OLD AGE HOME AT COIMBATORE.

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ABSTRACT

A study to assess the effect of selected calisthenics on quality of sleep and wellbeing among old age people in a selected old age home at Coimbatore.

The main aim of the study was to determine whether Calisthenics exercise made any significant difference on level of overall wellbeing and Quality of Sleep among old age people in selected old age home at Coimbatore.

The conceptual frame work used in this study was based on the Callista Roy's Adaptation Theory (1996). A non-equivalent quasi experimental pretest – posttest control group design was used. Sixty samples from two blocks of old age home were selected, 30 were assigned to experimental group and 30 to control group by simple random sampling technique. The experimental group was taught calisthenics exercise. They practiced the exercises every day for 30 minutes in the presence of the investigator.

Pre and post intervention assessment of wellbeing was done using Wellbeing assessment tool and Quality of Sleep by using Pittsburg Sleep Quality Index Scale. The data was analyzed using descriptive and inferential statistics.

Major findings of the study revealed that in the experimental group before the intervention 28 samples (93.33%) had very poor overall wellbeing and 2 samples (6.70%) had poor overall wellbeing whereas after the intervention 24 samples (80%) had good overall wellbeing and 6 samples (20%) had very good overall wellbeing. In the control group there were no major changes in the level of overall wellbeing in baseline and subsequent observation. 25 samples (83.30%) in baseline observation and 24 samples (80%) in subsequent observation had very poor wellbeing and 5 samples (16.70%) in baseline observation and 6 samples (20%) in subsequent observation had poor overall wellbeing.

Before the intervention there was no significant difference in the overall wellbeing of the two groups. After the intervention the overall wellbeing of the experimental group

significantly improved (mean score = 134.73) compared to control group (mean score = 75.03) ($t = 51.50$, $df = 58$, $P<0.05$).

In the experimental group the overall sleep quality was poor in 100 percent of old age people before the intervention and after the intervention 86.70 percent showed improvement and had good sleep quality whereas 13.30 percent continued to remain in poor sleep quality. In control group the overall sleep quality was poor in all the 30 samples at base line observation and there was no change in subsequent observation on 30^{th} day.

Before the intervention the mean sleep score of experimental group was 9.96 and control group was 9.93. After the intervention the mean sleep score of experimental group was 2.73 and in the control group the mean score was nearly the same. There was a significant difference between the mean sleep score of two groups after intervention ($t = 18.22$, $df = 58$, $P<0.05$).

This study concluded that calisthenics exercise had a significant effect in improving overall wellbeing and Quality of sleep among old age people staying in old age home.

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INTRODUCTION

BACKGROUND OF THE STUDY

Everyone born in this world should undergo the process of aging. Aging in human beings refers to a multidimensional process of physical, psychological, and social changes occurring over time.

Age is measured chronologically where person's birthday plays an important role. Chronological aging may also be distinguished from "social aging" and "biological aging". Social ageing means how the people should act as they grow older and biological aging refers to the organism’s physical state as age progresses.

Differences are sometimes made between populations of elderly people hence the old age is further classified as follows,

The young old (65–74),

The middle old (75–84) and

The oldest old (85+).

However the chronological age does not correlate perfectly with functional age. For example two people may be of the same age but differ in their mental and physical capacities.

In Biology, **senescence** is the state or process of aging. Some **Bio Gerontologists** are treating aging as a disease because genes that have an effect on aging are discovered; aging is increasingly being regarded in a similar fashion to other genetically influenced conditions that are potentially "treatable."

The beauty about the Indian culture lies in its age-long prevailing tradition of the joint family system. The elder-most, usually the male member is the head in the joint

Indian family system who makes all important decisions and rules, whereas other family members accept with full respect but today the joint family system is clearly on the decline**.**

Job opportunities available in the cities become the main cause of the disintegration of the joint family system. People migrated to the cities in search of jobs. For a number of reasons, a joint family system could not exist in the cities. There is a lack of living space in the cities. It is difficult to accommodate all the members of a joint family in a single house in the city and also the cost of living is very high in the cities.

The aging process will affect the old age people physically, psychologically, socially and spiritually. As aging progress, physically aged people become less active. Body changes associated with aging usually make them more vulnerable to various diseases and to side effects and complications of medical treatment. Because the aging process slows the response time, it may take them longer to adjust to environmental changes. The most common problems faced by the elderly are Visual impairment (88%), Loco motor disorder (44%), Neurological complaints (18.7%), Hearing loss (8.2%) and Respiratory disorder (16.1%) **(Jhilam Rudra 2007).**

World Health Organization (WHO) estimates that about 75% of deaths in people over the age of 65 in industrialized countries are from heart disease, cancer and cerebrovascular disease. Another major cause of death and disability is osteoporosis and associated bone fractures, which affects many women due to post-menopausal bone loss.

Apart from health problems, old age now encounters great social problem in our society. It is strange that no one wants to grow old but everyone wants to live long. In our modern society, where money is the scale of everything, the old age people are measured as an economic liability and a social burden. Old age is observed as an undesirable and problematic stage of life that all are compelled to live until our final exit from life itself. Many people get extremely fearful when they become old.

Elders who have been in control of the household for a long time are unwilling to give up the responsibility to their children so the trend now being observed among the middle class aged population of India is more and more senior citizens are seeking accommodation in the old age homes .The main reason that emerged is the unwillingness of the family to care for aged, which has been expressed through abuse, neglect and refusal to co-habit and care for them. These have made the old age homes seem more relevant in the Indian context than ever before.

Even though some old age homes are giving proper care with all facilities and old age home residents are happy they have anxiety about their current situation and about future. Frequently they have worries about their children and grand kids. These emotional disturbances lead to frustration which in turn can distress their sleep.

The common sleep pattern disturbances experienced by the elderly people are trouble falling asleep, frequent awakening, waking too early, needing to nap and not feeling rested. These disturbances may be secondary to situational, environmental or developmental stressors, or they may be associated with illness or with pre-existing disorders. The relationship is often reciprocal, in that the disorder decreases sleep & the decreased sleep affects the disorder.

An **article by Med India** states that most often sleep problems in the elderly are due to disease, environment, or lifestyle and not due to the "the normal aging" process. This happens for aged persons residing in old age homes. Irrespective of age, it remains essential to get the proper amount of restorative sleep for a person's physical health and emotional well-being. Poor sleep is not an automatic consequence of aging and quality sleep is important for overall health.

They are also not engaged in any physical activities and social activities which further deteriorate their health. Many studies states exercise as an important means of preventing cardiovascular disease, falls, and depression. Exercise will also help to maintain weight as metabolism slows. Endorphins produced by exercise can actually help the person feel better and reduce feelings of sadness or depression.

A number of the age connected diseases happen not because of the process of growing old but as a consequence of our way of leading the life. By increasing muscle strength and elasticity one can prevent injury and slow the age-related decline of muscle activity. Adopting a healthy lifestyle that includes regular physical activity, adequate rest, avoiding tobacco, and a diet full of healthy foods and beverages can be the best defense against age related problems. Being active and feeling strong naturally helps to feel more self-confident and improves the sense of well-being.

NEED FOR THE STUDY

Old age is an irreversible biological phenomenon and no one in the world can stop aging. Due to advancements in medical field the life expectancy of people is steadily increasing year after year. Life expectancy in India has increased from 41 years in 1951 to 64 years today. The elderly population in India accounts for 5.6% of the total population in 1971, but in 2007 it has been increased to 7.5% and is predicted to be 12.5% or about 1 out of 8 by 2025.

Recently due to urbanization and modernization the joint family system has been broken down to nuclear family and the elderly people have started walking out of their own home in search of a journey that promises peace, joy and celebration of life with a group of people who share the same boat of life, so they come to old age home. However their wellbeing and sleep has continuously been disturbed. Sometimes old age people are even compelled to live in the old age home by their own children. Young people with vigor and strength forget that it's not too late for them to be in the same shoes.

As per recent statistics by **N. P Das and Urvishah, Population Research Centre, Baroda, 2009** there are 1018 old age homes in India today. Out of these, 427 homes are free of cost while 153 old age homes are on pay and stay basis, 146 homes have both free as well as pay and stay facilities and detailed information is not available for 292 homes. Old age people don't want any kind of luxurious life but peaceful life; always their thinking was about their children and grandchildren they don't even care

about themselves much. They also don’t engage in any physical activities and so their health problems increase day by day. This continuous pain and agony leads to sleep disturbances and also poor state of wellbeing.

There is no particular age to perform exercises; even in the oldage exercises can be performed. Many studies proved that exercises diminish the age related problems. Among all exercises calisthenics are simple exercises that can be easily performed by elderly group.

Calisthenics is a widely practiced form of exercise and is recognized as a fun and healthy way to keep fit. Calisthenics is a type of arranged exercises made up of many different movements performed using simple steps. Calisthenics is an ideal way to increase flexibility by strengthening the muscle tone. While performing calisthenics a proper routine must be followed. They are very simple to teach and practice by any age group.

The researcher, during her clinical posting in geriatric ward and also her visits to various old age homes and community area found that most of the elderly people are suffering from sleeplessness, hopelessness and not engaged in any sort of physical exercises. Moreover they also believe that they should not do any physical exercises during this old age period and are hesitating to do it so. Due to these problems as the days pass on they are even unable to do their daily activities like bathing, eating etc. and are continuously worried about their problems. Old age home residents are mainly cared by the geriatric nurse who is staying along with them. Old age home staff needs to take steps to improve the sense of wellbeing of old age people by engaging them in physical activities and improving their sleep. So the researcher wanted to do something for the benefit of this population. Hence the researcher felt a need to assess the effect of selected calisthenics on improving sense of wellbeing and quality of sleep in elderly people staying in old age home.

STATEMENT OF THE PROBLEM:

A study to assess the effect of selected calisthenics on quality of sleep and well-being among the old age people in a selected old age home, Coimbatore.

AIM OF THE STUDY:

The aim of the study was to evaluate whether calisthenics makes any difference in the level of sleep and self-reported well-being among old age people compared to group of old age people without receiving calisthenics.

SPECIFIC OBJECTIVES:

The specific objectives of the study were

- To assess and compare the level of well- being in the experimental and control group before and after the intervention.
- To assess and compare the quality of sleep in experimental and control group before and after the intervention.
- To associate the selected demographic variables like age, gender and educational level with the level of well-being and quality of sleep.

RESEARCH HYPOTHESIS:

H1: There is a significant difference between the mean physical wellbeing score of experimental and control group after intervention and no significant difference before intervention.

H2: There is a significant difference between the mean social wellbeing score of experimental and control group after intervention and no significant difference before intervention.

H3: There is a significant difference between the mean emotional wellbeing score of experimental and control group after intervention and no significant difference before intervention.

H4: There is a significant difference between the mean spiritual wellbeing score of experimental and control group after intervention and no significant difference before intervention.

H5: There is a significant difference between the mean overall wellbeing score of experimental and control group after intervention and no significant difference before intervention.

H6: There is a significant difference between the mean sleep score of experimental and control group after intervention and no significant difference before intervention.

OPERATIONAL DEFINITIONS:

a) Calisthenics:

Calisthenics are defined as a type of organized exercises, consisting of wide range of simple moves without machines. The best low intensity calisthenics exercises for old age are Arm rotation, Hip rotation, Ankle rotation, Side bends and Forward bends.

Arm rotation – in this exercise the old age person has to stretch the arms horizontally and flex the elbows so that the fingers rest on the shoulders and do the rotation both clockwise and anti- clockwise direction.

Hip rotation – in hip rotation initially the old age person has to stand straight and place hand on the hip. Then slowly want to move the hip in clockwise and anti- clockwise direction.

Ankle rotation - this exercise has to be done in sitting position. Initially the old age person has to sit in the chair and raise one leg and then rotate the ankle both in clockwise and anti- clockwise direction for 5 times in each side.

Side bends – in side bends initially the person has to stand straight and bend sideways in 'C' shaped arc position for 5 times in each side.

Forward bends – the old age person has to stand straight and bend forward without bending the knees in doing forward bends.

b) Sleep:

Sleep is a state of rest in which the nervous system is inactive, the eyes are closed, the muscles are relaxed and the mind is unconscious. The characteristics of sleep can be verbalized by a person who experiences the sleep. In this study the quality of sleep is measured using Pittsburg Sleep Quality Index.

c) Wellbeing:

A sense of wellness (healthy balance of the mind, body and spirit) experienced by the person and reported on questioning. The wellness is expressed in relation to physical, psychological, social, spiritual and emotional aspects of the individual. In this study the level of wellbeing is measured using modified Mc. Kinley wellbeing assessment tool.

ASSUMPTION:

- aging is a natural phenomenon
- the aging pattern differs among the individual
- wellbeing of the older people will vary based on certain demographic factors such as age, sex and educational status.
- variability in the sleep behavior of the older people is common.

DELIMITATIONS:

The study is delimited to

- old age people in the age group of sixty to seventy five years
- selected calisthenics exercises which the old age people can undergo

LIMITATIONS:

The limitations of the study are

- The views expressed may not be a true reflection of their feelings
- As sample size is small, results cannot be generalized

SCOPE OF THE STUDY:

This study will help to assess the level of wellbeing and quality of sleep of the old age people staying in old age home before and after the intervention. If there is significant improvement in the level of overall wellbeing and quality of sleep, it is a clear indication of effectiveness of calisthenics. These calisthenics exercise will be beneficial for the elderly people staying in old age home. It can be easily implemented and taught by nurses who are employed in old age homes as well as in geriatric ward in hospitals. The regular practice of these exercises will improve the quality of life of the old age people with health problems and sleep disturbances.

CONCEPTUAL FRAME WORK

Conceptual frame work refers to interrelated concepts or abstractions that are assembled together in some rational scheme by virtue of their relevance to a common theme **(Polit Hungler - 1997).**

Theoretical model for this study was derived from Callista Roy's Adaptation Theory (1996). Roy employs a feedback cycle of input, throughput, and output. Input is identified as stimuli, which can come from the environment or from within a person.

Stimuli are classified as focal (immediately confronting the person), contextual (all other stimuli, that are present) or residual (nonspecific such as cultural beliefs or attitude about illness). Input also includes a person's adaptation level (the range of stimuli to which a person can adapt easily. Through input we can make use of a person's processes and effectors. "Process" refers to the control mechanisms that a person uses as an adaptive system. "Effectors" refers to the physiological function, self-concept, role function and interdependence involved in adaptation.

In the adaptive system, the term "system" is defined as self-parts connected to function as a whole for some purpose and it so by virtue of the interdependence of its parts. This has two major internal control process called "regulator" and "cognator".
Regulator sub system consists of internal process including chemical, neutral, and endocrine – transmit the stimuli, causing output – physiological response, cognator and sub system regulates self-concepts, role function and inter dependence.

Output is the outcome of the system; when the system is a person, output is categorized as adaptive responses (Those that promote a person's integrity) or ineffective responses (those that do not promote goal achievement) these responses provide feedback for the system.

The modified model in this study explains the input as the focal stimuli namely poor overall wellbeing and poor quality of sleep. The contextual stimuli are age, sex, educational status, marital status, duration of stay in old age home and presence of visitors. The coping mechanism of the cognator subsystem occurs as a result of calisthenics exercise. The experimental group is subjected to calisthenics exercise. The adaptive responses among the experimental group of old age people show improvement in the overall wellbeing and quality of sleep. The control group that has not undergone the calisthenics exercise might not show an effective adaptation.

Figure – 1 highlights the conceptual framework based on modified Roy's adaptation model (1996).

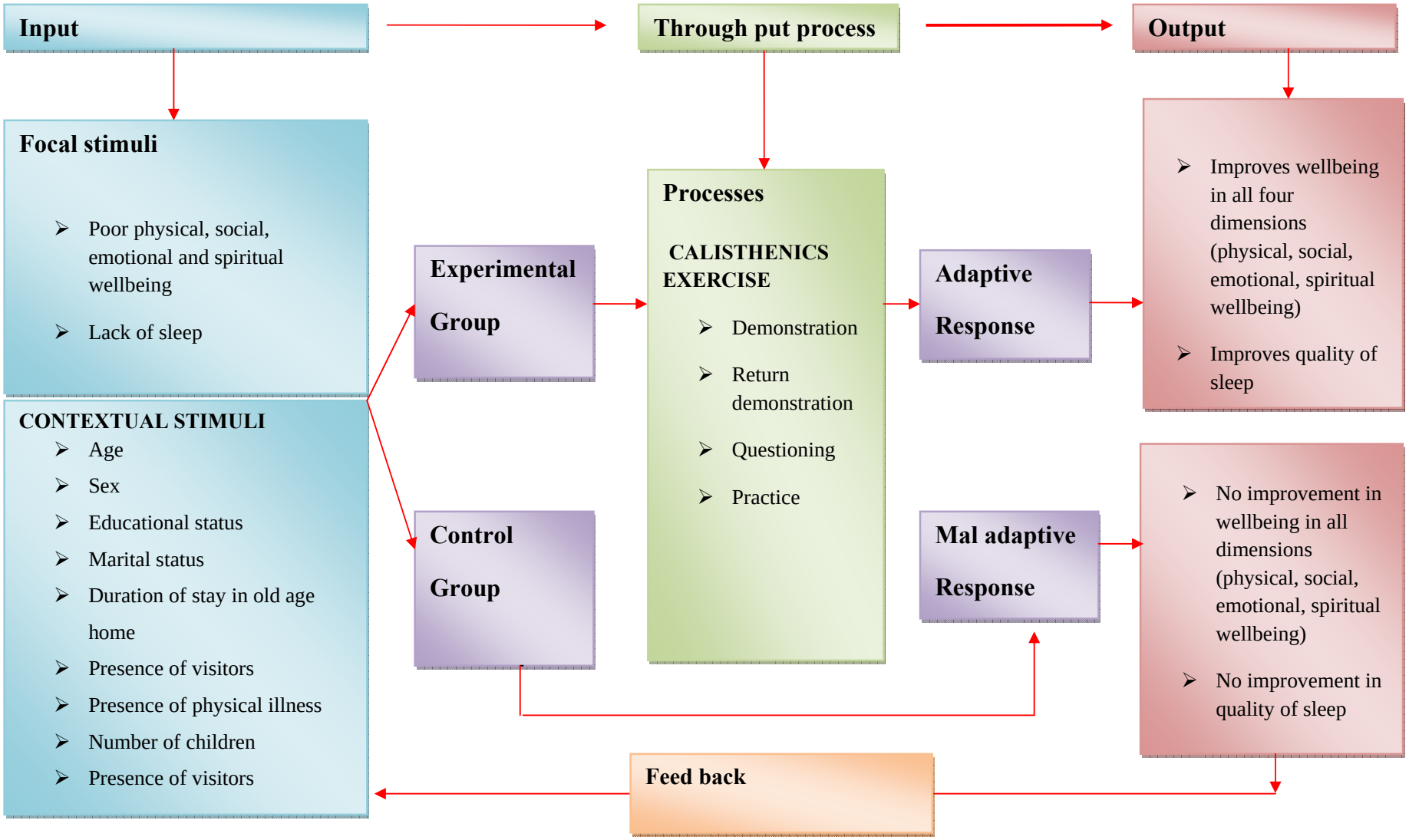


FIGURE – 1: CONCEPTUAL FRAMEWORK BASED ON MODIFIED ROYS ADAPTATION MODEL (1996)

REVIEW OF LITERATURE

CHAPTER-II

REVIEW OF LITERATURE

The review of literature in a research report is a summary of current knowledge about a particular practice-problem **(Nancy & Burns 2002).** A literature review is an organized writer's presentation of what has been published on a topic by the scholars. The task of reviewing literature involves the identification, selection, critical analysis and reporting of existing information on the topic of interest.

The literatures found relevant and useful for the present study have been organized under the following headings

1. **Literature related to overall wellbeing of elderly people**
2. **Literature related to quality of sleep among elderly people**
3. **Literature related to the benefit of calisthenics exercise**

1. Literature related to overall wellbeing of elderly people

Liliane Rioux (2005) conducted a study to assess the general well-being of elderly women living in their own houses or flats, while more specifically focusing on the well-being or enjoyment they feel in everyday life situations. One hundred and fourteen women residents of the Region Centre, France, ranging in age from 72 to 86 years old were selected. A French adaptation of the Satisfaction With Life Scale, (SWLS) was used to assess their views. The results indicated differential impact of such factors as "age", "reasons for choosing to stay in the home", "general wellbeing", "degree of perceived social pressure", and "level of housing related constraints" on the well-being felt by aging women living in their own homes, according to whether or not an activity is performed in company (alone or in the presence of either their spouses or guests).

Prieto-Flores ME (2005) conducted an analytical study to assess and compare the level of emotional wellbeing with socio demographical variables and health factors. A survey on Quality of Life was conducted among elderly people living in

families. Results showed that people without bipolar disorders had good emotional wellbeing than those who had depression and anxiety. Older adults with good health condition in the last 12 months reported five times a high emotional wellbeing than those with poor health condition. People with positive health perception were 26 times more likely of having high emotional wellbeing than those with negative health perception. Elderly people belonged to high socio economic status was reported to have three times more positive wellbeing than those belonged to poor socio economic status.

PA Bourne (2008) from the University of the West Indies conducted a study in Jamaica, to assess the well-being of elderly people. This research utilized cross-sectional data taken from the Jamaica Survey of Living Conditions (JSLC) 2002 in order to identify and explain some of the determinants of well-being among the Jamaican elderly. Information was collected using self-administered questionnaire. Multivariate regression was used to establish the well-being model. The surveyed population was 3009 respondents aged 60 years and older. The average age of the surveyed population was 71 years 10 months ± 8 years six months. The result showed that general well-being of the Jamaican elderly was low (mean of 3.9/14 ± 2.3).

Elliott AF, McGwin G Jr, Owsley C. (2009) conducted a descriptive study to assess the Health-related quality of life and visual and cognitive impairment among nursing-home residents. The result showed that the deleterious impact of vision impairment on Health Related Quality Of Life in nursing-home residents was not exacerbated by the co-occurrence of cognitive impairment. Age-related visual impairment in nursing-home residents is often reversible through treatment leading to improved Health Related Quality Of Life (HRQoL), and thus it is clinically important to know that cognitive impairment is unlikely to interfere with this benefit.

Ingersoll-Dayton et al (2009) conducted a community survey among elderly people aged above 60 years with the aim of assessing the psychological wellbeing in relation to physical illness. 1147 elderly people over in rural Thailand were included in that study. The tools used in the study were Thai Psychological Wellbeing Scale and the brief WHO Disability Assessment Schedule. They rated both received and perceived social support from children and from others separately. Results have

shown that Impairments due to pain, arthritis, hemiplegia, vision impairment, breathing disorders were all associated with lower psychological wellbeing. After adjusting for disability, only impairment due to paralysis was independently associated with lowered psychological wellbeing. People with two or more impairments compared with none were associated with lowered psychological wellbeing. Disability was strongly associated with low psychological wellbeing. Received support buffer the impact of some impairment on psychological wellbeing. The study recommended that community disability services and optimizing received social support for older people should be improved in rural areas.

Jori Reijula , Toni Rosendahl (2009) conducted a study with a new method to assess perceived well-being among elderly people. They used a countable electronic device that has been developed to gain reliable information on elderly patients' perceived well-being. The time period was long enough to collect a sufficient amount of information to evaluate the perceived well-being of the elderly in old age homes. Perceived well-being was assessed by using a Con-Dis device and by filling out an attached questionnaire – RAI (Resident Assessment Instrument) - at the same time. RAI (Resident Assessment Instrument) consisted of questions concerning mood, pain and quality of life. A standardized RAVA (Rajala-Vaissi) questionnaire with 12 questions concerning test subject's health was also answered once during the two-week time period by each test subject. After the test period the data obtained by Con-Dis was compared with the findings collected using questionnaires. A statistically significant correlation was found between perceived well-being (measured by Con-Dis) and questionnaire-based mood (Pearson Correlation Coefficient) and quality of life. No statistically significant correlation was found between perceived well-being and pain. Technical functionality and feasibility of Con-Dis were good during the test period. Some problems arose because the test subjects were elderly and some in poor physical condition. The test subjects' mood and quality of life but not pain had a statistically significant association with the perceived well-being level measured by Con-Dis.

Martin Pinquart and Silvia Sorensen (2009) conducted an analytical study on gender differences in self-concept and Psychological wellbeing in elderly. They analyzed 300 empirical studies on gender differences in life satisfaction, happiness,

loneliness, self-esteem subjective health, and subjective age in late adulthood and synthesized their findings. The result revealed that older women reported significantly lower Subjective Wellbeing and less positive self-concept than men on all measures, except subjective age.

2) Literature related to quality of sleep among elderly people.

Chokroverty (2000) conducted an exploratory study to find out altered sleep physiology among elderly nursing home residents. In this study the researcher reported that rapid eye movement sleep is needed for brain tissue restoration and appears to be important for cognitive restoration. Rapid eye movement sleep is associated with changes in cerebral blood flow, increased cortical activity, increased oxygen consumption, and epinephrine release. This association may assist in memory storage and learning. With ageing, episodes of rapid eye movement sleep tend to shorten. There is a progressive decrease in stage 3 and 4, or deep sleep. An older adult awakens more often during the night, and it may take more time for an older adult to fall asleep.

Luciana Frighetto, **Carlo Marra (2004)** conducted a study to assess sleep disturbance and its determinants including the use of drugs with sedating properties. The study was carried for 70-day period, 100 patients were included in this study. There was a relatively even distribution of males versus females, most patients were in their 8th decade of life, retired, and suffered from multiple chronic diseases. A validated Verran and Snyder-Halpern (VSH) Sleep Scale measuring sleep disturbance, sleep effectiveness, and sleep supplementation measuring scale was used. Benzodiazepines were the most common sedating drugs prescribed. Over 300 sleep disturbance, effective and supplementation scores were completed. Sleep disturbance scores across all study days ranged 16–681; sleep effectiveness scores ranged 54–402, while sleep supplementation scores ranged between 0–358. There was an association between sleep disturbance scores and the number of chronic diseases, the presence of pain, the use of bedtime tricyclic antidepressants, and the number of chronic diseases without pain. There was also an association between sleep effectiveness scores and the length of hospitalization. Finally, an association was identified between sleep supplementation scores and the in hospital use of bedtime sedatives (tricyclic

antidepressants and loxapine), and age. Twenty-nine (29%) patients received a prescription for a hypnotic drug while in hospital, with no evidence of pre-admission hypnotic use. The results of this study reveal that quality of sleep is a problem that affects hospitalized adult medical service patients and a relatively high percentage of these patients are being prescribed a hypnotic prior to and during hospitalization.

Newman AB, Enright PL, Manolio TA (2004) Department of Medicine, University of Pittsburg conducted a Cross-sectional study of sleep disturbance, general health status, psychosocial issues, physical function, cardio vascular diseases and use of psychotropic medications. 5201 adults aged 65 years and above were randomly selected from the community. Results have shown that Women were twice as likely as men to report difficulty falling asleep (30% vs. 14%). Daytime sleepiness, difficulty falling asleep, and frequent awakenings increased with age. All symptoms were strongly related to depression. Symptoms of daytime sleepiness were also related strongly to poor health and limitations in activities of daily living in men and women. Men taking benzodiazepines were reported difficulty falling asleep and daytime sleepiness, whereas women taking benzodiazepines reported difficulty falling asleep and waking up too early. The study concluded that sleep disturbances are relatively common in older men and women and are associated with poor health, depression, angina, limitations in activities of daily living, and the use of benzodiazepines.

Haimov I, Vadas L (2009) conducted a study to analyze whether insomnia is associated with changes in cognitive functioning among elderly people. The study population comprised two groups: 64 older adult subjects without sleep disorders, and 48 older adult with insomnia. All subjects were living independently in the community and were in good clinical condition. The cognitive capacity of each subject was tested at the subject's home using the computerized "Mind Fit" test. The results demonstrated that chronic insomnia was associated with impairment in cognitive functioning in older adults. Specifically, older people suffering from late-life insomnia exhibited significantly reduced performance in memory span, concentration, time estimation, working memory and integration of two dimensions. The present findings suggest that late-life insomnia may be one of the factors contributing to the decline in cognitive functioning seen among older people.

A community based longitudinal study was conducted by **Kim JM, Stewart R (2008)** to estimate the incidence and prevalence of insomnia and associate with depression and physical illness.1204 people aged 65 years and above were assessed at baseline observation. 909 of them were re-assessed after 2 years. The researcher reported that (27%) had insomnia at baseline observation, and it increased to 40% at subsequent observation. Baseline depression was significantly associated with incidence and prevalence of insomnia. In baseline observation, the number of physical disorders was significantly associated with incidence and prevalence of insomnia. Baseline insomnia was independently associated with depression and an increase in physical disorders. The study concluded that insomnia was common in that population and was closely related to depression and physical illness.

Newman AB, Unruh ML (2008) University of Pittsburgh Medical Center, conducted a cross sectional studies to identify the relationship between the subjective and objective sleep quality with chronic health conditions. A total of 5407 adults participated in this study. Results showed that elderly people had shorter sleep time, decreased sleep efficiency, and frequent arousals in both men and women. The researcher associated the subjective report and objective sleep quality. It revealed that the association between subjective and objective sleep quality was low to moderate. The researcher concluded that older age was more strongly associated with poorer sleep according to direct observation in men than women, yet the subjective report of poor sleep with older age was stronger in women.

Lin HH, Tsai PS (2011) conducted a study to assess the effects of kiwifruit on sleep patterns, including sleep onset, duration, and quality. In this study, they applied a free-living, self-controlled diet design. Twenty-four subjects (2 males, 22 females) consumed 2 kiwifruits 1 hour before bedtime for 4 weeks. The Chinese version of the Pittsburgh Sleep Quality Index (CPSQI), a 3-day sleep diary, and the Actigraph sleep/activity logger watch were used to assess the subjective and objective parameters of sleep quality, including time to bed, time of sleep onset, waking time after sleep onset, time of getting up, total sleep time, and self-reported sleep quality and sleep onset latency, waking time after sleep onset, total sleep time, and sleep efficiency before and after the intervention. After 4 weeks of kiwifruit consumption, the subjective quality of sleep score, waking time after sleep onset, and sleep onset

latency were significantly decreased. Total sleep time and sleep efficiency were significantly increased. Thus the result concluded that Kiwifruit consumption improved sleep onset, duration, and efficiency in adults with self-reported sleep disturbances. The authors recommend that further investigation of the sleep-promoting properties of kiwifruit may be warranted.

3. Literature related to the benefit of calisthenics exercise

SL Cassady, DH Nielsen (1992) conducted a study to assess the cardiorespiratory responses of healthy subjects to calisthenics performed on land versus in water. This study evaluated the oxygen consumption and heart rate response curves for standardized upper- and lower-extremity exercise on land and in water. Forty healthy subjects performed one upper-extremity and one lower-extremity exercise at three selected cadences on land and in water. Steady-state heart rate was determined by electrocardiographic radio telemetry and expressed as a percentage of age-predicted maximal heart rate (APMHR). Percentage of age-predicted maximal heart rate was used as the criterion measure of relative exercise intensity. Oxygen consumption was determined by the open-circuit method. Results indicated systematic increase in oxygen consumption from 2 to 9 metabolic equivalents (METs) and % age-predicted maximal heart rate from 45% to 73% with increased cadence. The oxygen consumption responses were highest during water exercise, whereas % age-predicted maximal heart rate was greater during land exercise. Based on the magnitude of the responses, water calisthenics appear to be of sufficient intensity to elicit training adaptations.

A study was conducted by **W M Kohrt, R J Spina (1998)** and published in Journal of the American Geriatrics Society. The study was conducted for the purpose of prescribing exercise intensity for elderly people. The American College of Sports Medicine (ACSM) provides guidelines for relating the perceived level of exertion and the heart rate (HR) response during exercise, expressed either as a percentage of maximal HR or of HR reserve, to a percentage of maximal aerobic power (VO2max). However, because maximal HR and maximal aerobic power decline with age, it is possible that these guidelines are not appropriate for an older population. The purpose of this study was to evaluate in 60- to 72-year-old women the relationships among the

common methods of prescribing exercise intensity. Participants were 112 healthy but sedentary women, aged 66 to 72 years, who performed treadmill walking at four speeds. Subjects were recruited from the community, and exercise tests were performed at a university laboratory facility. Maximal aerobic power and maximal HR were determined during treadmill walking. The HR and maximal aerobic power responses to walking 6 minutes at each of four speeds ranging from 67 to 107 m/min, along with ratings of perceived exertion (RPE) and plasma lactate levels, were determined on a separate day. The results indicate that HR expressed as a percentage of maximal HR is an appropriate method of prescribing exercise intensity in healthy, sedentary 60- to 72-year-old women.

C A Johnston, D M Lindsay, J P Wiley (1999) conducted a retrospective case study to review the effectiveness of a home-based rehabilitation program in the treatment of iliopsoas syndrome. This study relates the outcome of an exercise program (hip rotation calisthenics exercises and stretching) to address clinical deficiencies observed in iliopsoas syndrome. He studied pain and activity limitation for 9 patients before and after application of the rehabilitation program. As a group, symptoms of iliopsoas syndrome were present for a mean of 12.6 (+/- 18.4) months prior to diagnosis and rehabilitation. The tool used to assess pain was a 4-point ordinal scale. The result showed that pain and function improvement occurred in 7 of 9 (77%) patients. Five patients improved by at least 2 pain/activity levels at the time of follow-up all but 2 patients were able to return to full activity. This study concluded that a specific exercise regimen incorporating hip rotation might improve function and reduce pain for patients with iliopsoas syndrome.

Elisabeth Preisinger, Katharina Kerschan-Schindl (2001) conducted a study to assess the long-term effects of calisthenics home exercises on the incidence of fractures in postmenopausal women .The study was long-term observational study. The samples selected where postmenopausal women between 45 and 75 years of age. The number of fractures before and during the observation time was recorded by means of a questionnaire. Vertebral deformities due to fractures were diagnosed by X-rays at entry and at follow-up. Walking speed, muscle strength, static post urography, and maximum oxygen uptake were measured in addition. The results showed that after a follow-up 73 women of the exercise group and 64 subjects of the control group

were investigated. Thirty-three per cent of the exercise group reported to have exercised continuously at least three times a week for 20 min. No intergroup differences between the compliant and non-compliant exercisers and the control group were seen in the number of fractures. However, the incidence of fracture was lowest in women with a baseline bone mass less than one standard deviation (SD) below the mean for young adults (high BMC) and highest in those with more than 2.5 SD below the mean for young adults (low BMC).

B Kara, L Pinar (2001) conducted a study to assess the effect of exercise on aerobic fitness, and the correlations between aerobic capacities, pulmonary functions and cognition. In this study, an aerobic exercise program consisting of submaximal level calisthenics exercises was devised for relatively healthy women between 60 and 80 years old, attending a solidarity center for the aged for daily activities. Following a general health examination, 45 female volunteers fulfilling the international criteria of exercising standards for the aged were included in the program. The rhythmic and entertaining calisthenics exercises were performed by the older women for four months, three days a week, 40 or 50 minutes a day. Tests for aerobic capacities, pulmonary functions, and some neuropsychological performances were carried out during the sedentary period and after the exercise program. The results revealed significant improvements in aerobic capacity, pulmonary functions, and some of the cognitive functions after the 4-month exercise program. They found strong relationships between aerobic capacities and cognitive functioning.

Michael T Cibulka, Michael J Strube, Damon Meier (2009) conducted a study to assess the symmetrical and asymmetrical hip rotation and its relationship to hip rotator muscle strength. The sample size selected for the study was 64. Muscle strength was measured in the standard 0 degrees and mid-range hip positions. The samples were divided into three groups depending on hip rotation, symmetrical, internal rotation greater than external rotation and external rotation greater than internal rotation. The result of the study showed that difference in muscle strength of the hip rotators is dependent upon the position and the type of hip rotation either symmetrical or asymmetrical.

Chen JL, Godfrey S, Ng TT, Moorthi R (2010) from Boston University School of Medicine, Boston, USA conducted a randomized pilot trial to assess the Effect of intra-dialytic, low-intensity strength training on functional capacity in adult haemodialysis patients. The 50 long term hemodialysis patients in the age group of 69yrs and above were selected for the study. The intra-dialytic low-intensity strength training or stretching (attention-control) exercises were given twice a weekly for a total of 48 exercise sessions. The tool used in this study to assess the outcome of physical performance was Short Physical Performance Battery score (SPPB). Secondary outcomes included lower body strength, body composition and quality of life. Measurements were obtained at baseline and at completion of 24 (mid), 36 (post) and 48 (final) exercise sessions. The result of the study showed that Intra-dialytic, low-intensity progressive strength training was safe and effective among maintenance dialysis patients and suggests that further studies are needed to establish the generalizability of this strength training program in dialysis patients.

Conclusion

The review of literature enlightened the investigator to develop an insight into the various well being related issues and sleep problems of elderly people and benefits of calisthenics exercise. This review helped the investigator to gain a deeper knowledge of the research problem and guided in designing the study.

METHODOLOGY

CHAPTER III

RESEARCH METHODOLOGY

Methodology of research organizes all the components of the study in a way that is most likely to lead to valid answers to the sub problems that have been posed **(Burns and Grove, 2002).** It refers to various logical steps that are generally adopted by the investigator in studying the research problem.

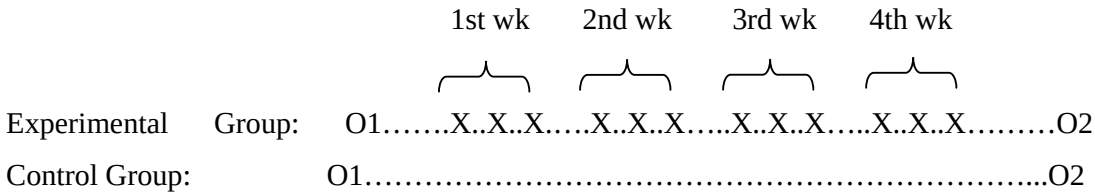
This chapter explains the methodology adopted by the researcher to assess the level of overall wellbeing, and quality of sleep and deals with the description of research design, research setting, sample and sampling technique, development and description of the tool, pilot study, data collection and statistical analysis.

RESEARCH APPROACH

The research approach is an overall plan chosen to carry out the study. The selection of research approach is the basic procedure for the conduction of research inquiry. An evaluative approach was used in this study as the study aimed at assessing the effectiveness of selected calisthenics exercise on overall well-being and quality of sleep.

RESEARCH DESIGN

A quasi experimental pretest and posttest two group design was used to test the effectiveness of selected calisthenics exercise on overall well-being and sleep of old age people in old age home.



O1 - Pre intervention assessment of level of wellbeing

and quality of sleep in experimental and control group.

O2 - Post intervention assessment of level of wellbeing and quality of sleep after 4 weeks in experimental and control group

X - Calisthenics Exercise. It was given thrice a week on alternative days for four weeks to the experimental group.

VARIABLES IN THE STUDY

a) Independent variable - Selected calisthenics exercise
b) Dependent variables - Overall Wellbeing (Physical, Social, Emotional and Spiritual) and Quality of Sleep.

SETTING OF THE STUDY

"Setting" refers to the area where the study is conducted. The study is conducted in a selected old age home at Coimbatore. There are 4 blocks in the old age home and all these blocks come under 1 administration, funded by the senior citizens association. Total population of the old age home is 150 members. There are 20 rooms and 5 dormitories in each block. Each room accommodates 4 to 5 members and the dormitory accommodates 7 to 8 members. There are separate rooms for meditation, news reading, meeting hall and office for administration. There is also a dining room attached with the kitchen. The inmates celebrate all local and national festivals in the home.

Admissions to the old age home take place once in a year in the month of May. The old age people seek admission to these homes either voluntarily or brought by relatives. Two separate registers are maintained for voluntary and involuntary admissions. This old age home has one nurse who visits the inmates twice in a month. If any health problem arises the inmates are referred to the nearby hospital. In general, natural home like environment is provided in the old age home.

TARGET POPULATION

The population under the study was all the males and females who were staying in the old age home and fulfilled the criteria for sample selection. There were 90 inmates who fulfilled the criteria.

SAMPLE SIZE

Sample refers to a subset of population that is selected to participate in a particular study **(Burns and Grove 2002).**

In this study the sample consisted of 60 inmates of the old age home (30 samples in control group and 30 in experimental group). Both male and female subjects were included in this study.

SAMPLING TECHNIQUE

A list of eligible subjects was prepared for block 1 and block 2. By the simple random sampling technique lottery method 30 samples were selected from first block and were assigned to the experimental group. From second block also 30 samples were selected and assigned to the control group.

SAMPLING CRITERIA

The following were the criteria for selection of samples for the study.

Inclusion criteria

a) Elderly people both male and female in the age group of 60 -75yrs
b) Those who were willing to participate
c) Those who were physically and mentally able to participate in the study

Exclusion criteria

a) Those who were bed ridden, unable to sit alone and do exercise
b) Those who were mentally incompetent to follow the commands
c) Un co-operative people

RESEARCH TOOL

The tool used for the data collection was an interview schedule organized in 3 parts.

Part 1: Demographic data

It consisted of personal information like age, sex, marital status, education, duration of stay in old age home, relatives visit, financial support, health problems, regular physical activity, sleep medicines and need of assistance for daily activities.

Part 2: Wellbeing scale

It is a standardized tool developed by the McKinley health Centre to assess the overall wellbeing. It is designed to assess the wellbeing in four dimensions (physical, social, emotional and spiritual wellbeing). There are 10 items in each dimension which subjectively measures the overall wellbeing. It is a widely used scale for measuring wellbeing in four dimensions. In this study it is modified by the researcher and modified wellbeing scale is used. The tool is modified by changing the subjective statements into questions. (Refer appendix VI).

Part 3: Pittsburg sleep quality index scale

It is a standardized tool to assess the quality of sleep. It has 9 items (subjective sleep quality, sleep duration, sleep latency, sleep efficiency, sleep disturbance, use of sleep medications and day time dysfunctions) which subjectively describe the person's sleep quality for the month. It has been widely used in many of the studies. In this study no modifications are made and the original tool is used. (Refer appendix VI).

SCORING AND INTERPRETATION OF SCORING

Scoring - wellbeing scale

In scoring the wellbeing scale each item is scored as ‘1’(rarely), ‘2’(sometimes), ‘3’(most the time) and ‘4’(always). 10 items in each dimension are summed up to get the score of each wellbeing dimension and each wellbeing dimension scores are summed up to get the overall wellbeing score.

The score was interpreted as

The sum of each wellbeing dimension (Physical, social, emotional and Spiritual) is scored as

35 - 40	very good
30 - 35	good
20 - 30	poor
10 - 20	very poor

Overall wellbeing score

Sum of four wellbeing dimensions scores

140 – 160	very good
120 – 140	good
80 – 120	poor
40 – 80	very poor

Scoring - Pittsburg sleep quality index scale

In scoring the Pittsburg sleep quality index scale, seven component scores are derived, each scored ‘0’ (no difficulty) to 3 (severe difficulty). The component scores are summed to produce overall score (range 0 to 21).

Overall PSQI Score

Sum of seven components scores

< 5 - Good sleep quality

> 5 - Poor sleep quality

DEVELOPMENT OF TEACHING PLAN ON CALISTHENICS EXERCISE

Calisthenics exercise

Calisthenics are a form of dynamic exercise consisting of a variety of simple, often rhythmical, movements, generally using minimal equipment or apparatus. The weight of the own body is used as resistance to build body strength and suppleness. It leads to an improvement in overall strength and energy which in turn promotes overall good health. The best low intensity calisthenics exercises for old age and the steps to perform the exercises are as follows

Step 1: Warming up – the first step before starting exercise is to warm up the body so the old age person is asked to walk slowly for 5 minutes.

Step 2:Arm rotation – in this exercise the old age person is instructed to stretch the arms horizontally and flex the elbows so that the fingers rest on the shoulders and do the rotation both clockwise and anti- clockwise direction for 5 times in each side.

Step 3:Hip rotation – in hip rotation the old age person has to stand straight and place the hand on the hip. Then slowly move hip in clockwise and anti- clockwise direction for 5 times in each side.

Step 4:Ankle rotation - this exercise has to be done in sitting position. Initially the old age person has to sit in the chair and raise one leg and then rotate the ankle both in clockwise and anti- clockwise direction for 5 times in each side.

Step 5: Side bends – in side bends initially the old age person has to stand straight and bend in sideways in c shaped arc position for 5 times in each side.

Step 6: Forward bends – the old age person has to stand straight and then bend forward without bending the knees and do the forward bend for 5 times.

Step 7: Cooling down – final step is to cool down the body so that the old age person has to walk slowly for 5 minutes and gradually cool down the body.

A teaching plan on calisthenics exercise is prepared to help people to learn the exercise.

The following steps were adopted to develop the teaching plan

1. Development of aim and objectives based on the study objectives
2. Selection of teaching learning content
3. Selection of teaching learning activities
4. Selection of Audio Visual Aids
5. Organization of the content

The contents included were

1. Basic concepts of calisthenics exercise
2. Advantages of calisthenics exercise
3. Demonstration of the calisthenics exercise
4. Practice and re demonstration
5. Instructions to follow

The first draft of teaching plan is derived by keeping in mind the objectives, literacy level of the sample, and simplicity of the language. The teaching plan is developed in English and it is translated into Tamil.

CONTENT VALIDITY

The research tool including the objectives of the study along with the criteria check list were submitted to five experts – three Nursing experts, one Geriatric physician and one Clinical Psychologist. The three nursing experts were Professors with Master's Degree in Nursing and working in different colleges of nursing in Coimbatore with more than 5 years of experience.

The General physician was working in a private hospital in Coimbatore for more than 20 years. The Clinical Psychologist was working in a private hospital in Coimbatore and had an experience spanning 15 years which included private practice. According to the expert's opinion the tool was refined.

RELIABILITY

The reliability of the overall wellbeing assessment scale was established by split half method. Correlation co-efficient was calculated by Karl Pearson correlation method. The obtained 'r' value for physical wellbeing was 0.985,'r' value for social wellbeing was 0.980, 'r' value for emotional wellbeing was 0.971 and 'r' value for spiritual wellbeing was 0.947, which confirmed that there was high positive correlation for level of wellbeing assessment tool.

The reliability of the modified Pittsburgh sleep Quality Index was also established by split half method. Correlation co-efficient was calculated by Karl Pearson correlation method. The obtained 'r' value for sleep quality index was 0.997 which confirmed that there was high positive correlation for sleep quality index tool.

PILOT STUDY

A pilot study was conducted in the same old age home, where main study was intended to be carried out, to test the feasibility of study. Permission was obtained from the concerned authorities of the Old age home.

Six samples were selected by simple random technique – lottery method from each block of old age home and assigned to the experimental and control group. After the self-introduction, the investigator explained the nature of study to the samples. After developing good rapport, the investigator collected the baseline data on overall wellbeing and quality of sleep of the samples for the past one month by interviewing the samples individually.

Calisthenics exercise were taught and demonstrated to the 6 samples of the experimental group as a group teaching and they were asked to re-demonstrate. The exercise was carried out for 30 minutes every day and it was continued for 12 days in the presence of investigator. On the 12^{th} day the investigator conducted the posttest by using same tools, Wellbeing Assessment tool and The Pittsburgh Sleep Quality Index. Pilot study confirmed the adequacy of the tools and techniques. Hence no modifications were required and same tools were used for the main study. The duration of pilot study was 12 days. The tool was translated into tamil and used. (Refer appendix VI).

DATA COLLECTION PROCEDURE

The main study was conducted in the same old age home where the pilot study was conducted. Before the data collection, permission was obtained from the Old age Home authority. A hall was arranged for demonstrating the exercise. Based on the sampling criteria and technique 30 samples were selected for experimental group from the first block and the same number of samples were selected for control group from second block. After establishing good rapport and obtaining their willingness the investigator explained the nature of the study to the samples and baseline data on quality of sleep and

wellbeing were collected by interviewing the samples individually from the first block on the first day. After that the investigator collected the same data by interviewing the samples individually on the second day.

The next day onwards the investigator stayed in the old age home from 5 – 6 pm. The experimental group was divided into two subgroups, males and females separately. According to teaching plan calisthenics exercises were taught and demonstrated separately for male and female in 2 sessions. The old age people were asked to re-demonstrate and carryout the exercises 30 minutes a day for 30 days in the presence of investigator. For control group no intervention was given. In both groups, on 30^{th} day the investigator conducted the posttest by using the same tool and collected data on level of wellbeing and quality of sleep by interviewing them individually. The main study was done from 01 – 09 – 2011 to 30 – 09 – 2011. The calisthenics were also taught to the control group after the post test was over for their benefit.

PLAN FOR DATA ANALYSIS

The data obtained would be analyzed in terms of the objectives of the study using descriptive and inferential statistics.

Descriptive statistics:

Frequency and percentage distribution were used to analyze demographic variables, to assess the level of overall wellbeing and quality of sleep of experimental and control group before and after the intervention.

Mean and standard deviation were used to determine the difference in level of wellbeing, and quality of sleep.

Inferential statistics:

‘Unpaired’ test was used to determine the significance of the difference in level of wellbeing and quality of sleep between the experimental and the control group.

‘Chi square’ test was used to associate the demographic variables with level of wellbeing and quality of sleep before the intervention.

ANALYSIS AND INTERPRETATION

CHAPTER – IV

DATA ANALYSIS AND INTERPRETATION

Data analysis is conducted to reduce, organize and give meaning to the data. Analysis technique in quantitative research includes descriptive and inferential analysis.

This chapter deals with the analysis and interpretation of data collected from 60 old age people from a selected old age home at Coimbatore.

The data have been presented under the following sections

Section – I Demographic characteristics of the sample

This section deals with the demographic profile of the elderly people in relation to their personal characteristics, old age home and health problems comparatively for the experimental and control group.

Section –II Wellbeing of Experimental and Control Group

Wellbeing in four dimensions (physical, social, emotional, spiritual) and overall wellbeing of experimental and control group has been analyzed comparatively in four levels (physical, social, emotional, spiritual) of wellbeing in frequency and percentage. Also the mean score in all the four dimensions and overall has been computed before and after intervention.

Section – III Quality of Sleep of Experimental and Control Group

The quality of sleep of experimental and control group has been analyzed and compared in two levels (good and poor) before and after intervention in frequency and percentage. Also analyzed the mean score and significant difference before and after intervention.

Section – IV Association of selected demographic variables and overall wellbeing

This section presents the association of demographic variables and level of overall wellbeing in various dimensions (physical, social, emotional and spiritual) in experimental and control group before the intervention.

SECTION – I DEMOGRAPHIC CHARACTERISTICS OF THE SAMPLES

TABLE -I

FREQUENCY AND PERCENTAGE DISTRIBUTION OF SAMPLES IN EXPERIMENTAL AND CONTROL GROUP ACCORDING TO PERSONAL CHARACTERISTICS

N = 60

S. no	Characteristics	Experimental group N=30		Control group N=30	
		F	%	F	%
1	**Age**				
	a) 60 -65 years	10	33.30	11	36.70
	b) 66 -70 years	14	46.70	12	40.00
	c) 71 -75 years	6	20.00	7	23.30
2	**Sex**				
	a) Male	15	50.00	17	56.70
	b) Female	15	50.00	13	43.30
3	**Marital status**				
	a) Married	20	66.70	19	63.30
	b) Widow/Widower	10	33.30	11	36.70
4	**Education**				
	a) No schooling	-	-	2	6.70
	b) Primary education	20	66.70	19	63.30
	c) Secondary education	10	33.30	9	30.00
5	**Regular physical activity**				
	a) Yes	1	3.30	-	-
	b) No	29	96.70	30	100.00
6	**Taking sleep medicines**				
	a) Yes	-	-	2	6.70
	b) No	30	100.00	28	93.30
7	**Daily activities without assistance**				
	a) Yes	15	50.00	16	53.30
	b) No	15	50.00	14	46.70

Table 1 presents the frequency and percentage of experimental and control group according to personal characteristics

Age

The age of samples ranged from 60 to 75 years. 10 to 11 samples in experimental group and control group were in the age group of 60 to 65 years. 12 to 14 samples in experimental group and control group were in the age group of 66 to 70 years and least number of samples 6 to 7 samples both in experimental and control group were in the age group of 71 to 75years.

Sex

In experimental group males and females were equally distributed whereas in the control group majority of samples (56.70%) were males and rest of the samples 43.3% were females.

Marital status

Majority of the samples nearly 65% in both groups were married and remaining 10 to 11 samples in both groups were either widow or widower.

Education

As far education is concerned 19 to 20 samples in both groups had primary education and 9 to 10 samples in both groups had secondary education. Only 6.7% samples in control group had no schooling.

Physical activity

Almost all samples in both groups were not engaged in any physical activity and only one sample in experimental group had been practicing regular physical activity.

Sleep medicine

All the samples in experimental group and maximum samples in control group (93.30%) did not have the habit of taking sleep medication and only 2 samples in control group were taking sleep medications.

Activities without assistance

With regard to daily activities nearly half of the samples both in experimental and control group either carried out activities with assistance or without assistance

TABLE - II

FREQUENCY AND PERCENTAGE DISTRIBUTION OF SAMPLES IN EXPERIMENTAL AND CONTROL GROUP ACCORDING TO STAY IN OLD AGE HOME

N=60

S.No	Characteristics	Experimental group N=30		Control group N=30	
		F	%	F	%
1	**Duration of stay**				
	a) Less than 1 year	3	10.00	9	30.00
	b) 1-3 years	12	40.00	13	43.30
	c) Above 3 years	15	50.00	8	26.70
2	**Relatives visiting**				
	a) Yes	20	66.70	22	73.30
	b) No	10	33.30	8	26.70
3	**Source of financial support**				
	a) Pensioner	18	60.00	16	53.30
	b) Family	12	40.00	14	46.70

Table II presents frequency and percentage of experimental and control group related to old age home

Duration of stay in the old age home

In experimental group half of the samples 50% were living in the old age home for above 3 years 40% were for 1 to 3 years and rest of them for less than one year whereas in the control group nearly half of the samples 43.3% were living for 1 to 3 years and 8 samples for above 3 years and 9 samples for less than one year.

Relatives visiting the old age home

Majority of samples in the experimental group (66.70%) and control group (73.30%) had their relatives visiting them regularly whereas for rest of 8 to 10 samples in both experimental and control group there were no visitors.

Source of financial support in the home

18 samples (60%) in the experimental group and 16 samples (53.30%) in the control group were receiving their pension and 12 samples (40%) in the experimental group and 14 samples (46.70%) in the control group were receiving financial support from their family.

TABLE - III

FREQUENCY AND PERCENTAGE DISTRIBUTION OF SAMPLES IN EXPERIMENTAL AND CONTROL GROUP ACCORDING TO HEALTH PROBLEMS

N=60

S.No	Characteristics	Experimental group N=30		Control group N=30	
		F	%	F	%
1	**Health problems**				
	a) Yes	13	43.30	16	53.30
	b) No	17	56.70	14	46.70
2	**Types of health problems**				
	a) Diabetes mellitus	3	10.00	7	23.40
	b) Hypertension	3	10.00	4	13.30
	c) Joint pain	4	13.30	4	13.30
	d) Bronchial asthma	1	3.30	1	3.30
	e) others	2	6.70	-	-

Table III presents frequency and percentage of experimental and control group according to health problems

Health problems

Health problems were present both in experimental and control group. In experimental group 17 samples were free from health problems and 13 samples (43.30%) had health problems whereas in control group it was reverse 14 samples had no health problems and 53.30% of samples were suffering from physical illness.

Types of health problems

Four types of health problems were present both in experimental and control group. They were Diabetes mellitus, Hypertension, Joint pain and Bronchial asthma. Among all the health problems Diabetes mellitus seemed to be the outstanding problem in control group and 3% to 23% of samples had any one of the following disease Hypertension, Joint pain or Bronchial asthma. In the experimental group all the diseases were equally distributed among the samples.

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SECTION – II WELLBEING OF EXPERIMENTAL AND CONTROL GROUP

TABLE - IV

FREQUENCY AND PERCENTAGE DISTRIBUTION OF SAMPLES IN EXPERIMENTAL AND CONTROL GROUP BASED ON LEVEL OF PHYSICAL WELLBEING BEFORE AND AFTER THE INTERVENTION ON 30TH DAY

N=60

Level of physical wellbeing	Experimental group N=30				Control group N=30			
	Before intervention		After intervention		Baseline observation on 1st day		Subsequent observation on 30th day	
	F	%	F	%	F	%	F	%
a) Very poor	29	96.70	-	-	28	93.30	29	96.60
b) poor	1	3.30	-	-	2	6.70	1	3.30
c) good	-	-	18	60.00	-	-	-	-
d) very good	-	-	12	40.00	-	-	-	-

Table IV presents the frequency and percentage of physical wellbeing in experimental and control group before and after the intervention

Before the intervention, in the experimental group majority of the samples 29 (96.70%) had very poor physical wellbeing. After the intervention on 30th day 18 samples (60%) had good physical wellbeing and 12 samples (40%) had very good physical wellbeing.

Similar to the experimental group, majority 28 samples (93.30%) in the control group had very poor level of physical wellbeing at the baseline observation. Unlike the experimental group, 29 subjects in the control group (96.6%) continued to have very poor physical wellbeing in the subsequent observation on 30th day. This table concludes that the difference in wellbeing observed in experimental group on 30th day could be due to the intervention carried out to the experimental group.

TABLE - V

FREQUENCY AND PERCENTAGE DISTRIBUTION OF SAMPLES IN EXPERIMENTAL AND CONTROL GROUP BASED ON LEVEL OF SOCIAL WELLBEING BEFORE AND AFTER THE INTERVENTION ON 30TH DAY

N=60

Level of Social wellbeing	Experimental group N=30				Control group N=30			
	Before intervention		After intervention		Baseline observation on 1st day		Subsequent observation on 30th day	
	F	%	F	%	F	%	F	%
a) Very poor	3	10.00	-	-	1	3.30	1	3.30
b) poor	27	90.00	-	-	29	96.70	29	96.70
c) good	-	-	19	63.30	-	-	-	-
d) very good	-	-	11	36.70	-	-	-	-

Table V presents the frequency and percentage of social wellbeing in experimental and control group before and after the intervention

The level of social wellbeing of the samples was poor in both the groups before the intervention. After the intervention the social wellbeing had improved from poor (90%) to good (63.30%) and very good (36.70%) level in the experimental group whereas in the control group the level of social wellbeing had not much change and remained nearly the same as baseline observation.

This table concludes that there was a major difference in the level of social wellbeing in experimental group after the intervention and no difference in the control group which may be due to the effect of intervention given to the experimental group.

TABLE - VI

FREQUENCY AND PERCENTAGE DISTRIBUTION OF SAMPLES IN EXPERIMENTAL AND CONTROL GROUP BASED ON LEVEL OF EMOTIONAL WELLBEING BEFORE AND AFTER THE INTERVENTION ON 30TH DAY

N=60

Level of emotional wellbeing	Experimental group N=30				Control group N=30			
	Before intervention		After intervention		Baseline observation on 1st day		Subsequent observation on 30th day	
	F	%	F	%	F	%	F	%
a) Very poor	12	40.00	-	-	16	53.30	16	53.30
b) poor	18	60.00	1	3.30	14	46.70	14	46.70
c) good	-	-	27	90.00	-	-	-	-
d) very good	-	-	2	6.70	-	-	-	-

Table VI presents the frequency and percentage of emotional wellbeing in experimental and control group before and after the intervention

Before the intervention in the experimental group majority of the samples 60% had poor emotional wellbeing and 40% of samples had very poor emotional wellbeing whereas after the intervention on 30th day wellbeing was improved and majority of the samples (90%) had good emotional wellbeing and 1 to 2 samples were either in poor or very good level of wellbeing.

In the control group there were no changes in the level of emotional wellbeing in baseline and at subsequent observation on 30th day. Majority of the subjects (53.30%) had very poor emotional wellbeing and rest (46.70%) had poor wellbeing. This table concludes that the difference in the level of emotional wellbeing observed in experimental group after the intervention may be due to the effect of intervention given to the experimental group.

TABLE - VII

FREQUENCY AND PERCENTAGE DISTRIBUTION OF EXPERIMENTAL AND CONTROL GROUP BASED ON LEVEL OF SPIRITUAL WELLBEING BEFORE AND AFTER THE INTERVENTION ON 30TH DAY

N=60

Level of spiritual wellbeing	Experimental group N=30				Control group N=30			
	Before intervention		After intervention		Baseline observation on 1st day		Subsequent observation on 30th day	
	F	%	F	%	F	%	F	%
a) Very poor	20	66.70	-	-	25	83.30	25	83.30
b) poor	10	33.30	2	6.70	5	16.70	5	16.70
c) good	-	-	17	56.70	-	-	-	-
d) very good	-	-	11	36.70	-	-	-	-

Table VII presents the frequency and percentage of spiritual wellbeing in experimental and control group before and after the intervention

Before intervention majority of samples (66.70%) in experimental group and control group (83.30%) had very poor level of spiritual wellbeing and after the intervention spiritual wellbeing level of experimental group had improved and majority of samples (56.70%) had good spiritual wellbeing and 36.70% had very good level of wellbeing whereas in control group there were no changes in baseline and subsequent observation.

This table concludes that the major difference in the level of spiritual wellbeing in experimental group after the intervention and no difference in the control group may be due to the effect of intervention given to the experimental group.

TABLE - VIII

FREQUENCY AND PERCENTAGE DISTRIBUTION OF SAMPLES IN EXPERIMENTAL AND CONTROL GROUP BASED ON LEVEL OF OVERALL WELLBEING BEFORE AND AFTER THE INTERVENTION ON 30TH DAY

N=60

Level of Overall wellbeing	Experimental group N=30				Control group N=30			
	Before intervention		After intervention		Baseline observation on 1st day		Subsequent observation on 30th day	
	F	%	F	%	F	%	F	%
a) Very poor	28	93.33	-	-	25	83.30	24	80.00
b) poor	2	6.70	-	-	5	16.70	6	20.00
c) good	-	-	24	80.00	-	-	-	-
d) very good	-	-	6	20.00	-	-	-	-

Table VIII presents the frequency and percentage of overall wellbeing in experimental and control group before and after the intervention

In the experimental group before the intervention majority of the samples 93.33% had very poor overall wellbeing and only 2 samples (6.70%) had poor overall wellbeing whereas after the intervention the overall wellbeing level improved and 24 samples (80%) had good overall wellbeing and 6 samples (20%) had very good overall wellbeing.

In the control group there were no major changes in the level of overall wellbeing in baseline and subsequent observation. Majority of samples (83.30%) in baseline observation and (80%) in subsequent observation had very poor wellbeing and 5 samples

(16.70%) in baseline observation and 6 samples (20%) in subsequent observation had poor overall wellbeing.

This table concludes that the difference observed in the level of overall wellbeing in experimental group on 30th day could be due to the effect of intervention given to the experimental group.

Figure 2 shows the percentage of overall wellbeing in the experimental group before and after the intervention

Figure 3 shows the percentage of overall wellbeing in the control group on baseline and subsequent observation

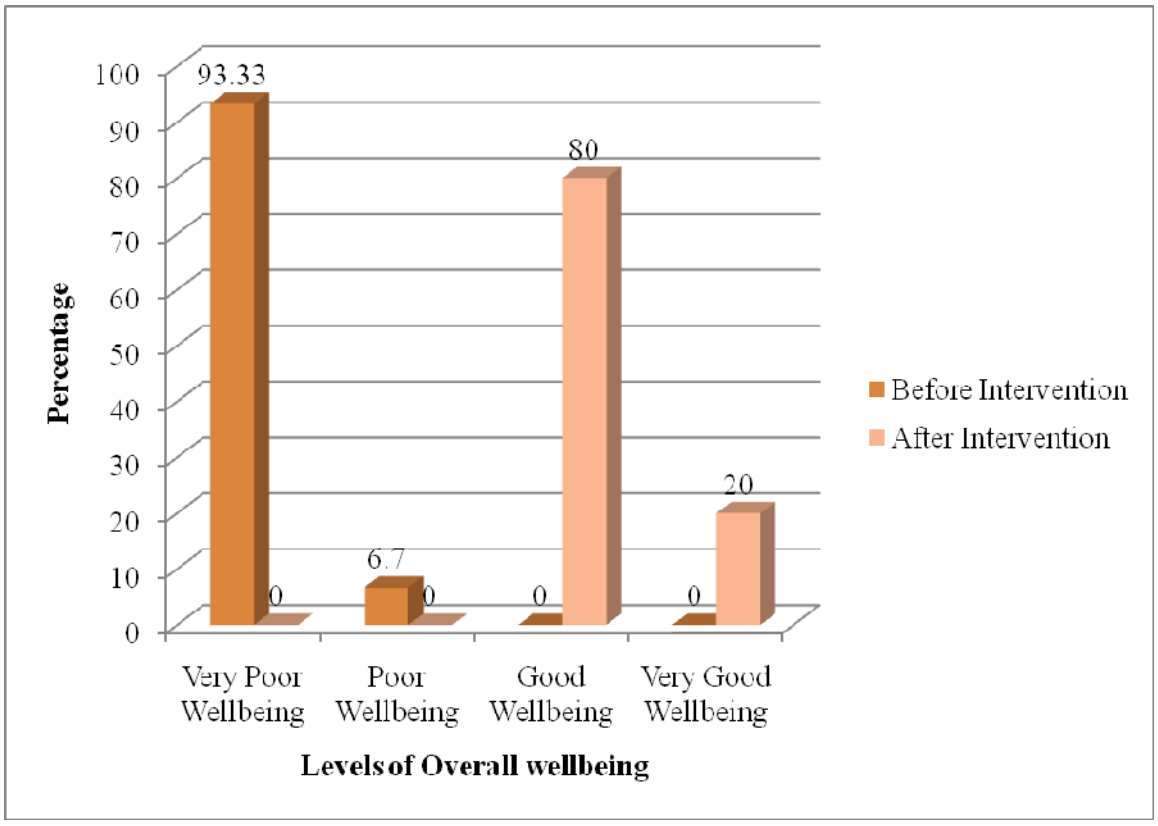

Figure 2: Percentage of levels of Overall Wellbeing before and after the intervention in experimental group

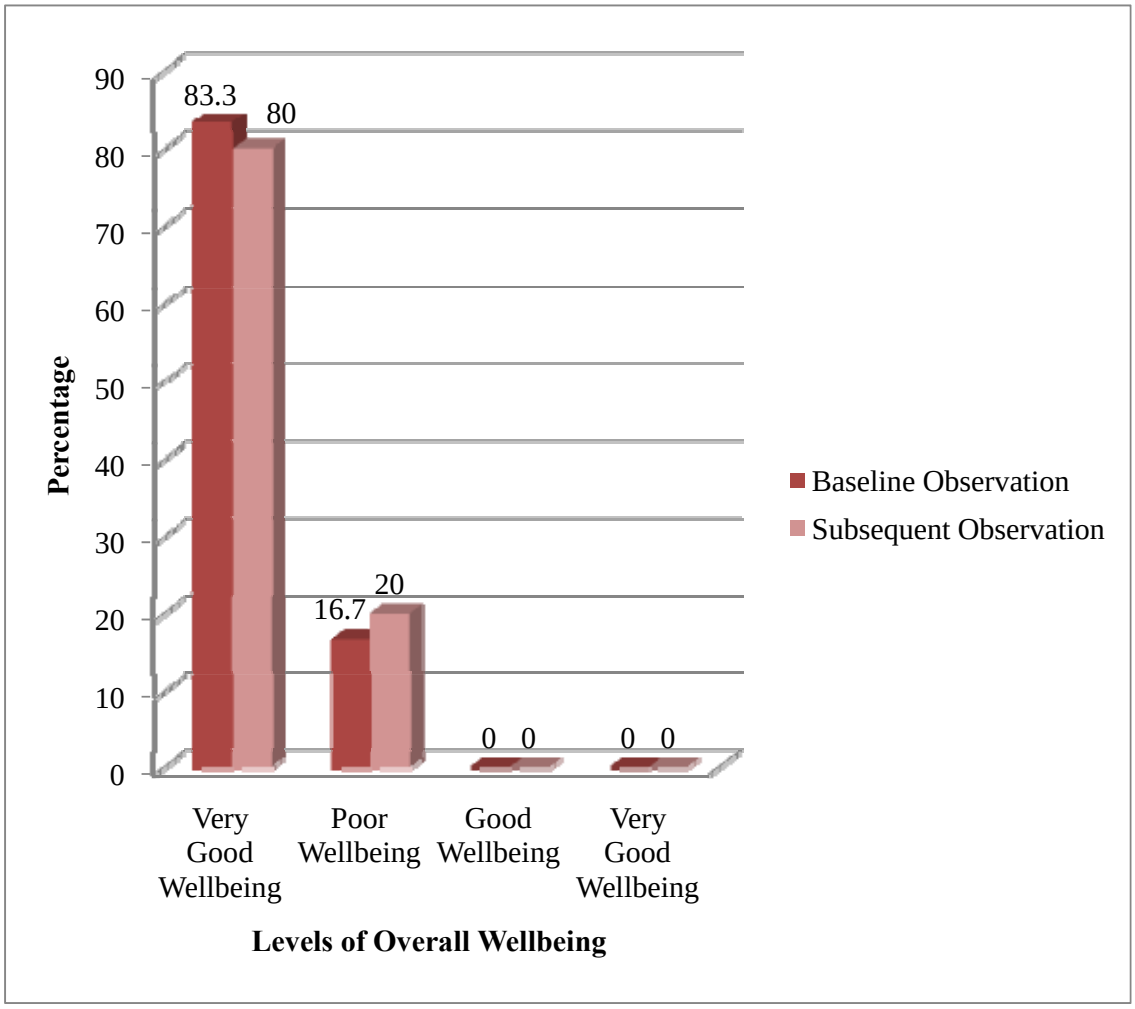

Figure 3: Percentage of levels of Overall Wellbeing on baseline and subsequent observation in control group

TABLE -IX

MEAN PHYSICAL WELLBEING SCORE AND STANDARD DEVIATION OF EXPERIMENTAL AND CONTROL GROUP BEFORE AND AFTER THE INTERVENTION ON 30TH DAY AND LEVEL OF SIGNIFICANCE

N=60

S. No	Physical Wellbeing	Max score	Experimental group N=30			Control group N=30			MD	Unpaired 't' value p<0.05 df =58
			Mean score	Mean %	SD	Mean score	Mean %	SD		
1	Before the intervention	40	15.16	37.90	2.03	15.66	39.15	2.15	0.50	0.92NS
2	After the intervention	40	34.26	85.65	1.89	15.76	39.40	2.19	18.50	34.98*

***-Significant.** **Table value- 2.00**

NS- Not Significant

Table IX - Presents the mean score of Physical Wellbeing in Experimental And Control Group Before and After the Intervention.

Before the intervention the mean score of physical wellbeing in the experimental group and the control group was nearly the same (15) whereas after the intervention the mean score of physical wellbeing was increased to 34.26 in the experimental group and in the control group physical wellbeing score was nearly the same as baseline observation.

The statistical test shows that there is a significant difference between the mean score of physical wellbeing of experimental and control group after the intervention ($t = 34.98$, $df = 58$, $P<0.05$) and no significant difference before the intervention.

So the hypothesis (H_1) there is a significant difference between the mean score of physical wellbeing of experimental and control group after the intervention and no significant difference before intervention is accepted.

Figure 4 highlights the physical wellbeing of the experimental and control group before and after the intervention

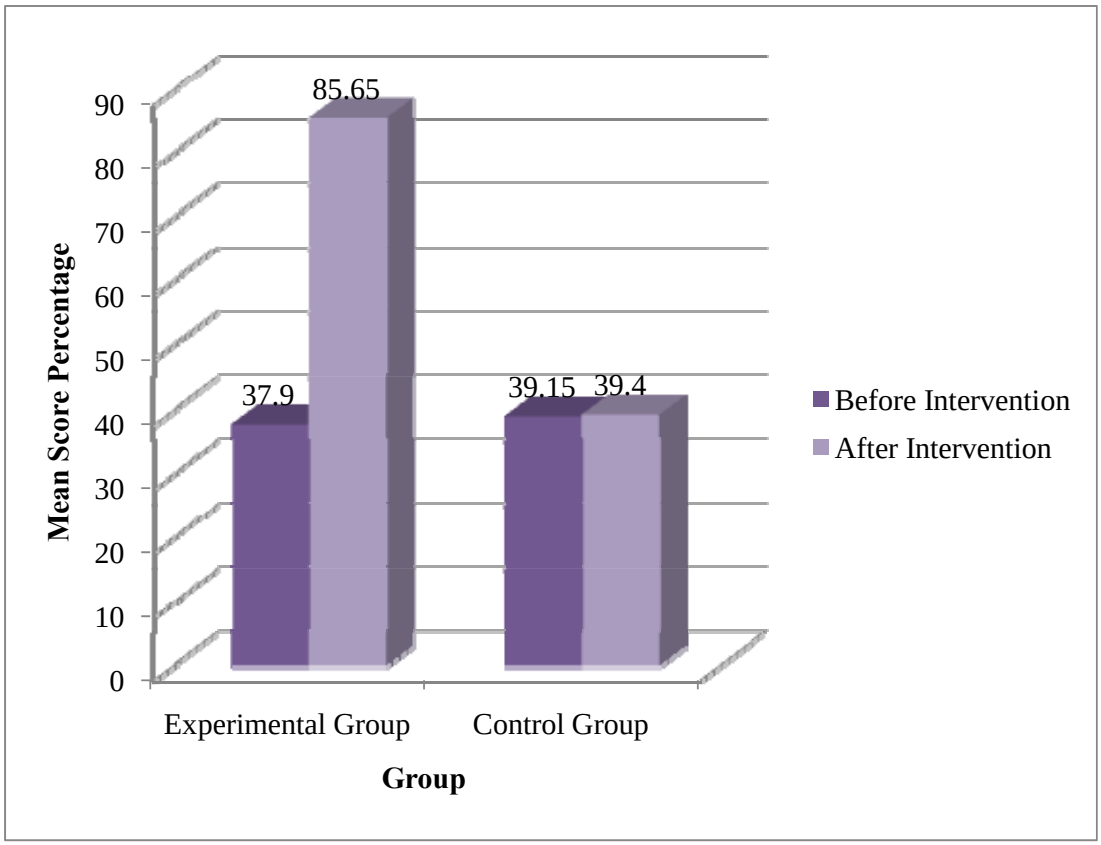

Figure 4: Mean score percentage of Physical Wellbeing of experimental and control group before and after the intervention

TABLE -X

MEAN SOCIAL WELLBEING SCORE AND STANDARD DEVIATION OF EXPERIMENTAL AND CONTROL GROUP BEFORE AND AFTER THE INTERVENTION ON 30TH DAY AND LEVEL OF SIGNIFICANCE

N=60

S. No	Social Wellbeing	Max score	Experimental group N=30			Control group N=30			MD	Unpaired 't' value p<0.05 df =58
			Mean score	Mean %	SD	Mean score	Mean %	SD		
1	Before the intervention	40	22.33	55.82	2.07	22.23	55.75	2.02	0.10	0.18NS
2	After the intervention	40	34.40	86.00	1.47	22.16	55.40	2.00	12.23	26.94*

***-Significant.** **Table value- 2.00**

NS- Not Significant

Table X - Presents the mean score of Social Wellbeing in Experimental and Control Group Before and After the Intervention.

In social wellbeing before the intervention the mean score was 22.33 in both the experimental and the control group whereas after the intervention the mean score of social wellbeing was increased to 34.40 in the experimental group and remained same in the control group as like baseline observation.

Statistically there is a significant difference between the mean score of social wellbeing of experimental and control group after the intervention ($t = 26.94$, $df = 58$, $P<0.05$), and no significant difference before the intervention.

So the hypothesis (H2) there is a significant difference between the mean score of social wellbeing of experimental and control group after the intervention and no significant difference before intervention is accepted.

Figure 5 highlights the social wellbeing of the experimental and control group before and after the intervention

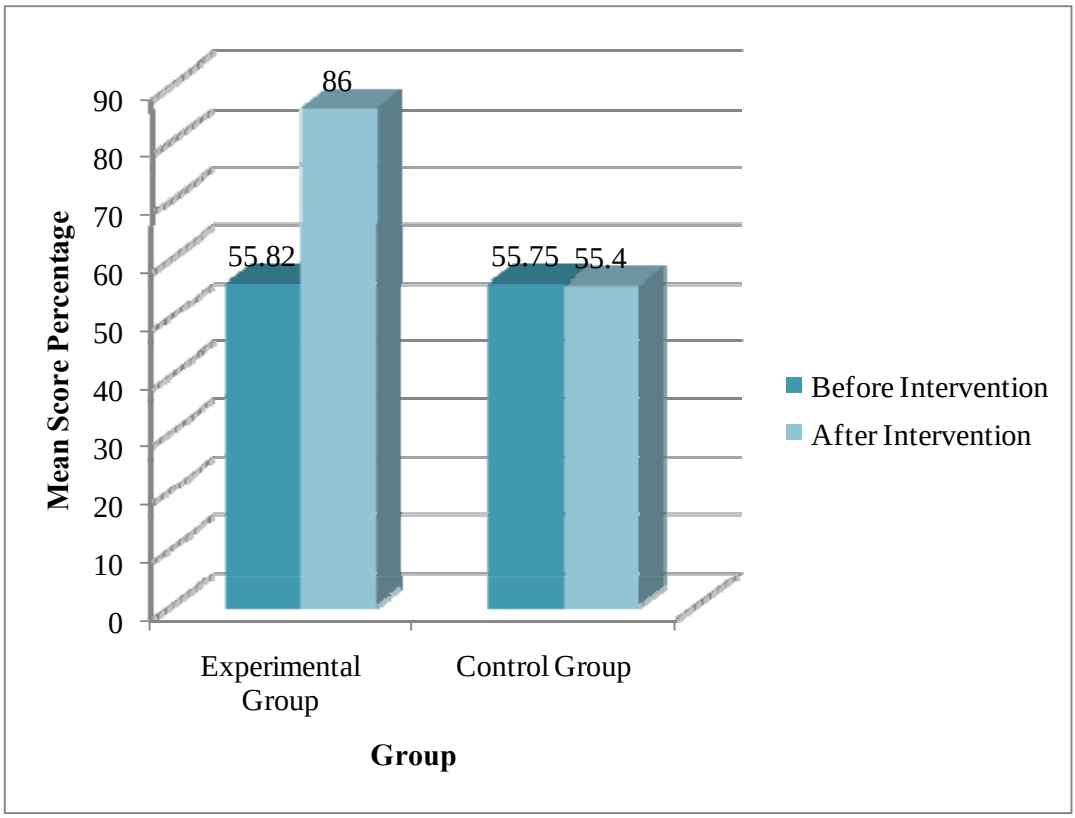

Figure 5: Mean score percentage of Social Wellbeing of experimental and control group before and after the intervention

TABLE -XI

MEAN EMOTIONAL WELLBEING SCORE AND STANDARD DEVIATION OF EXPERIMENTAL AND CONTROL GROUP BEFORE AND AFTER THE INTERVENTION ON 30TH DAY AND LEVEL OF SIGNIFICANCE

N=60

S. No	Emotional Wellbeing	Max score	Experimental group N=30			Control group N=30			MD	Unpaired 't' value p<0.05 df =58
			Mean score	Mean %	SD	Mean score	Mean %	SD		
1	Before the intervention	40	19.80	49.50	2.20	19.43	48.57	1.94	0.36	0.68NS
2	After the intervention	40	32.56	81.40	1.56	19.46	48.65	1.97	13.10	28.42*

***-Significant.** **Table value- 2.00**

NS- Not Significant

Table XI - Presents the mean score of Emotional Wellbeing in Experimental And Control Group Before and After the Intervention.

In the experimental group before the intervention the mean score of emotional wellbeing was 19.80 and after the intervention the mean score was 32.56 whereas in the control group at baseline and subsequent observation the mean score was nearly the same (48%).

Statistically before the intervention there is no significant difference between the mean score of emotional wellbeing in experimental and control group whereas after the intervention there is a significant difference ($t = 28.42$, $df = 58$, $P<0.05$).

So the hypothesis (H3) there is a significant difference between the mean score of emotional wellbeing of experimental and control group after the intervention and no significant difference before intervention is accepted.

Figure 6 highlights the emotional wellbeing of the experimental and control group before and after the intervention

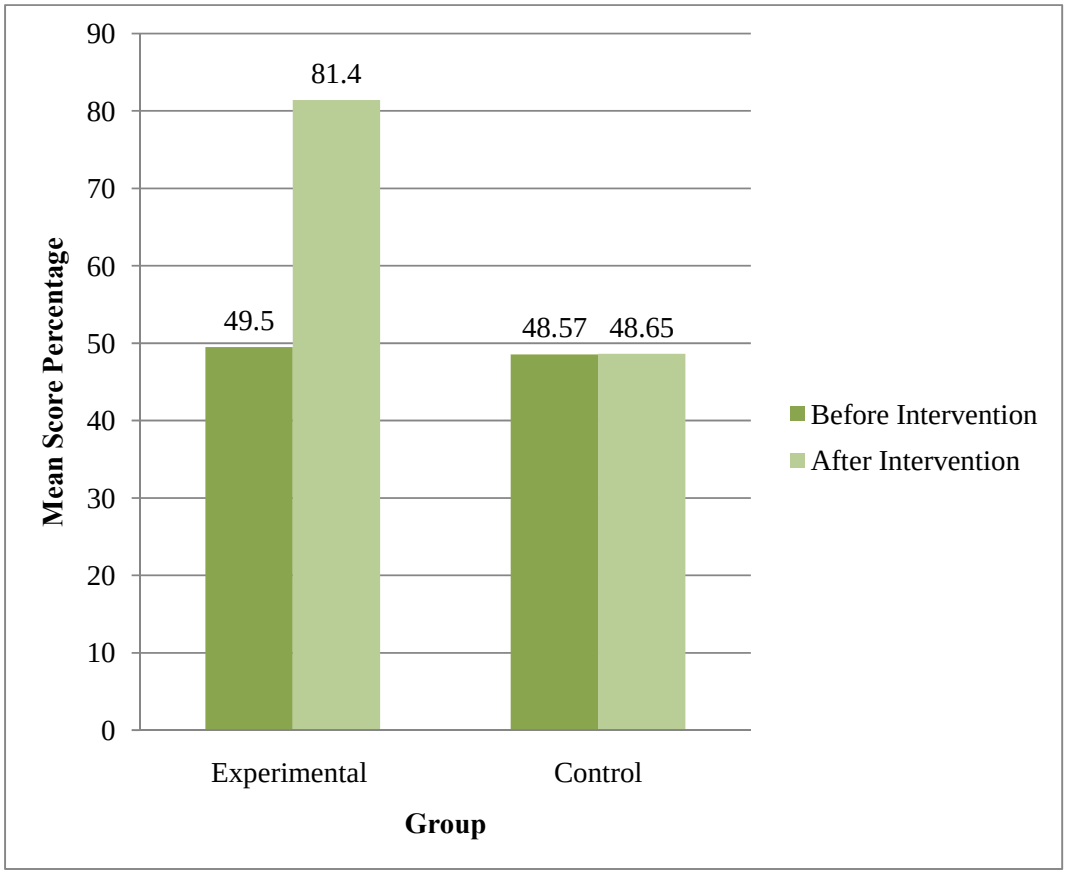

Figure 6: Mean score percentage of Emotional Wellbeing of experimental and control group before and after the intervention

TABLE -XII

MEAN SPIRITUAL WELLBEING SCORE AND STANDARD DEVIATION OF EXPERIMENTAL AND CONTROL GROUP BEFORE AND AFTER THE INTERVENTION ON 30TH DAY AND LEVEL OF SIGNIFICANCE

N=60

S. No	Spiritual Wellbeing	Max score	Experimental group N=30			Control group N=30			MD	Unpaired 't' value p<0.05 df =58
			Mean score	Mean %	SD	Mean score	Mean %	SD		
1	Before the intervention	40	18.06	45.15	2.03	17.73	44.32	2.06	0.33	0.63NS
2	After the intervention	40	33.36	83.40	2.48	17.63	44.07	2.09	15.73	26.53*

***-Significant.** **Table value- 2.00**

NS- Not Significant

Table XII - Presents the mean score of Spiritual Wellbeing in Experimental And Control Group Before and After the Intervention.

Before the intervention in the experimental group mean score of spiritual wellbeing was 18.06 whereas after the intervention the mean score was increased to 33.36.

In the control group at baseline and subsequent observation the mean score of spiritual wellbeing was nearly the same (17).

Statistically there is a significant difference between the mean score of spiritual wellbeing of experimental and control group after the intervention ($t = 26.53$, $df = 58$, $P<0.05$), and no significant difference before the intervention.

So the hypothesis (H4) there is a significant difference between the mean score of spiritual wellbeing of experimental and control group after the intervention and no significant difference before intervention is accepted

Figure 7 highlights the spiritual wellbeing of the experimental and control group before and after the intervention

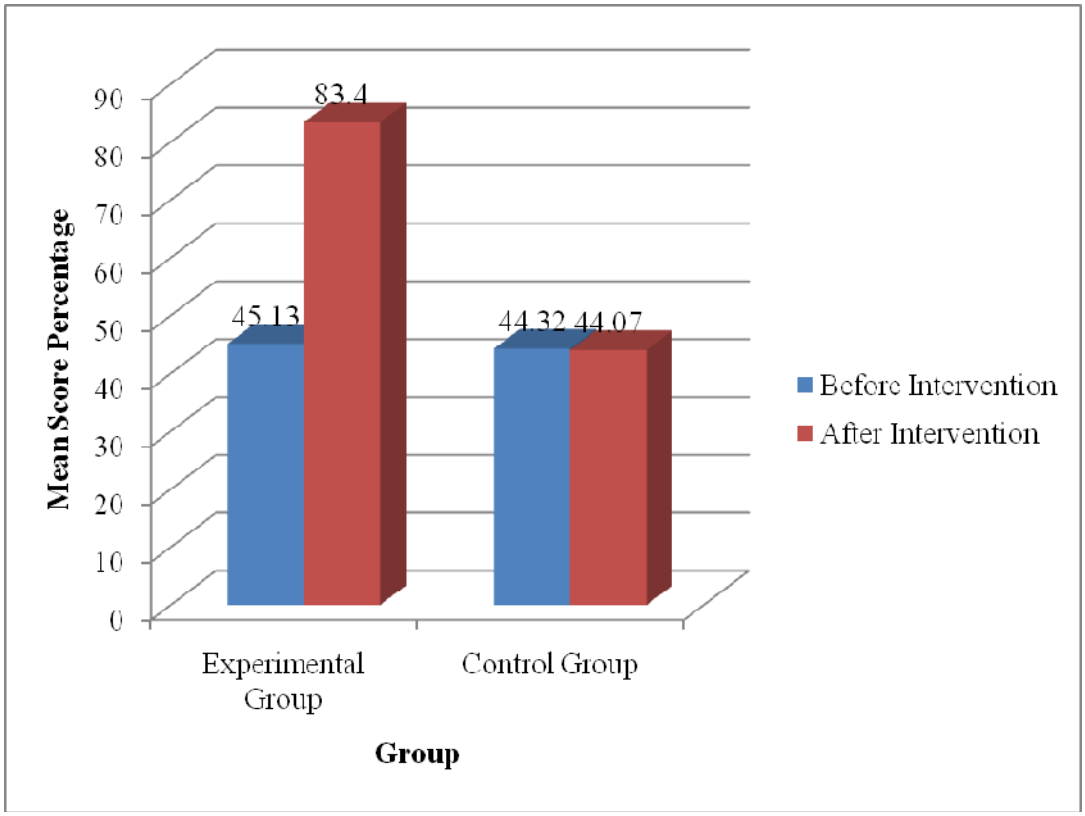

Figure 7: Mean score percentage of Spiritual Wellbeing of experimental and control group before and after the intervention

TABLE -XIII

MEAN OVERALL WELLBEING SCORE AND STANDARD DEVIATION OF EXPERIMENTAL AND CONTROL GROUP BEFORE AND AFTER THE INTERVENTION ON 30TH DAY AND LEVEL OF SIGNIFICANCE

N=60

S. No	Overall Wellbeing	Max score	Experimental group N=30			Control group N=30			MD	Unpaired 't' value p<0.05 df =58
			Mean score	Mean %	SD	Mean score	Mean %	SD		
1	Before the intervention	160	75.36	47.10	3.81	74.73	46.70	4.26	0.63	0.60NS
2	After the intervention	160	134.73	84.20	4.29	75.03	46.89	4.67	59.70	51.50*

***-Significant. Table value- 2.00**

NS- Not Significant

Table XIII - Presents the mean score of Overall Wellbeing in Experimental And Control Group Before and After the Intervention.

Before the intervention in the experimental group the mean score of overall wellbeing was 75.36 and after the intervention the mean score of overall wellbeing was increased to 134.73.

In the control group on baseline observation the mean score was 74.73 and on subsequent observation the score was 75.03 which was nearly same as baseline observation.

Statistically there is no significant difference between the mean score of overall wellbeing of experimental and control group before the intervention and significant difference between both groups after the intervention ($t = 51.50$, $df = 58$, $P<0.05$),.

So the hypothesis (H5) there is a significant difference between the mean score of overall wellbeing of experimental and control group after the intervention and no significant difference before intervention is accepted.

Figure 8 highlights the overall wellbeing of the experimental and control group before and after the intervention

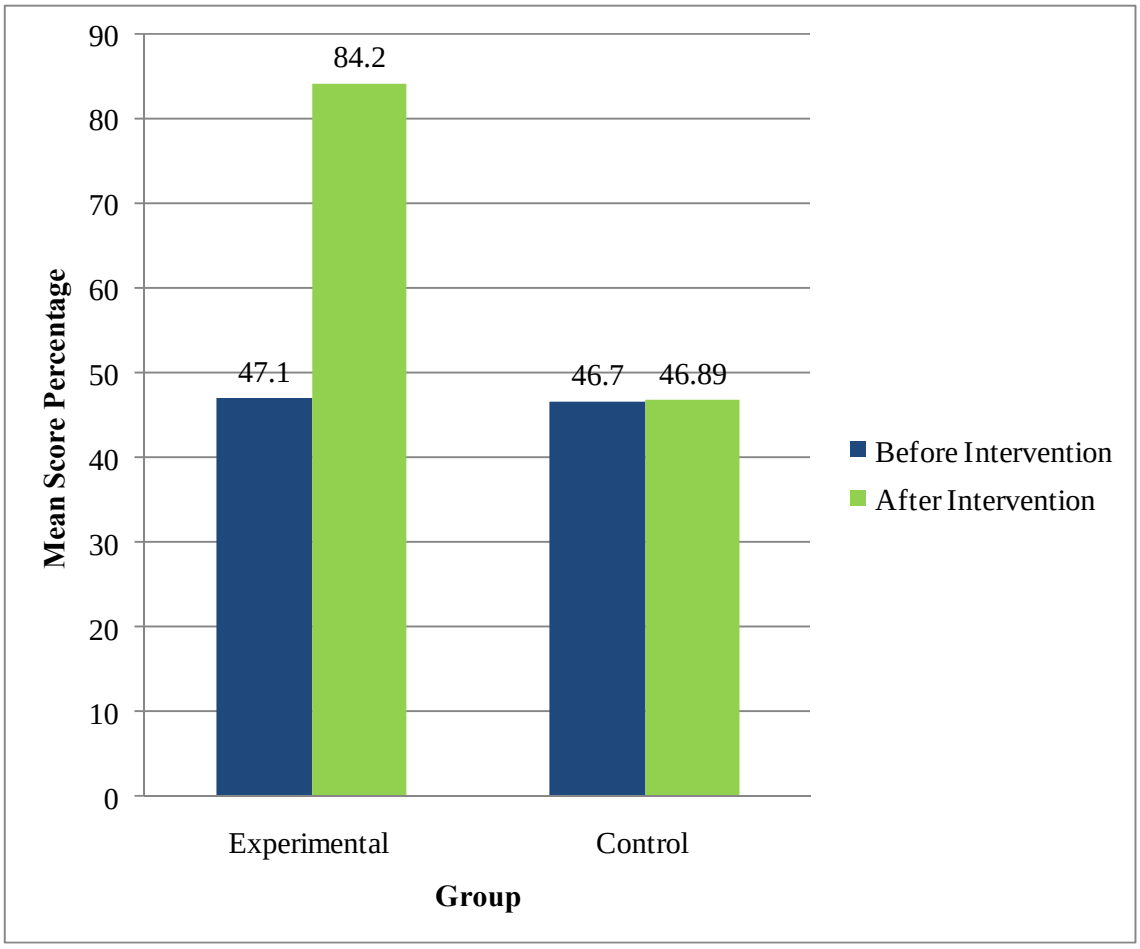

Figure 8: Mean score percentage of Overall Wellbeing of experimental and control group before and after the intervention

SECTION – III QUALITY OF SLEEP OF EXPERIMENTAL AND CONTROL GROUP

TABLE XIV

FREQUENCY AND PERCENTAGE DISTRIBUTION OF SAMPLES IN EXPERIMENTAL AND CONTROL GROUP BASED ON QUALITY OF SLEEP BEFORE AND AFTER THE INTERVENTION ON 30TH DAY

N=60

Overall Sleep Quality	Experimental group N=30				Control group N=30			
	Before the intervention		After the intervention		Baseline observation on 1st day		Subsequent observation on 30th day	
	F	%	F	%	F	%	F	%
a) Good	-	-	26	86.70	-	-	-	-
b) Poor	30	100.0	4	13.30	30	100	30	100

Table XIV presents the frequency and percentage of Overall Sleep Quality in Experimental and Control group before and after the intervention

In the experimental group the overall sleep quality was poor in all the 30 samples before the intervention and after the intervention majority of the samples (86.70%) showed improvement and had good sleep quality whereas 4 samples (13.30%) continued to remain in poor sleep quality. In control group the overall sleep quality was poor in all the 30 samples at base line observation and there was no change in subsequent observation on 30th day.

This table concludes that there was a major difference in overall sleep quality in experimental group after the intervention and no difference in the control group which may be the result of intervention administered to the experimental group.

TABLE –XV

MEAN SLEEP SCORE AND STANDARD DEVIATION OF EXPERIMENTAL AND CONTROL GROUP BEFORE AND AFTER THE INTERVENTION AND LEVEL OF SIGNIFICANCE

N=60

S.No	Sleep	Experimental group N=30		Control group N=30		MD	Unpaired 't' value p<0.05 df =58
		Mean Score	SD	Mean Score	SD		
1	Before the intervention	9.96	1.24	9.93	1.46	0.03	0.095NS
2	After the intervention	2.73	1.52	9.90	1.51	7.16	18.22*

*** - Significant.** **Table value- 2.00**

NS- Not Significant

Table - XV presents the frequency and percentage of Overall Sleep Quality in Experimental and Control group before and after the intervention

The data suggest that, before the intervention the mean sleep score of experimental group was 9.96 and control group was 9.93. After the intervention the mean sleep score of experimental group was 2.73 and in the control group the score was 9.90 which remained nearly the same as baseline observation.

Statistically there is a significant difference between the mean score of sleep in experimental and control group after the intervention ($t = 18.22$, $df = 58$, $P<0.05$), and no significant difference before the intervention.

So the hypothesis (H_6) there is a significant difference between the mean sleep score of experimental group and control group after the intervention is accepted.

Figure 9 highlights the quality of sleep of experimental and control group before and after the intervention

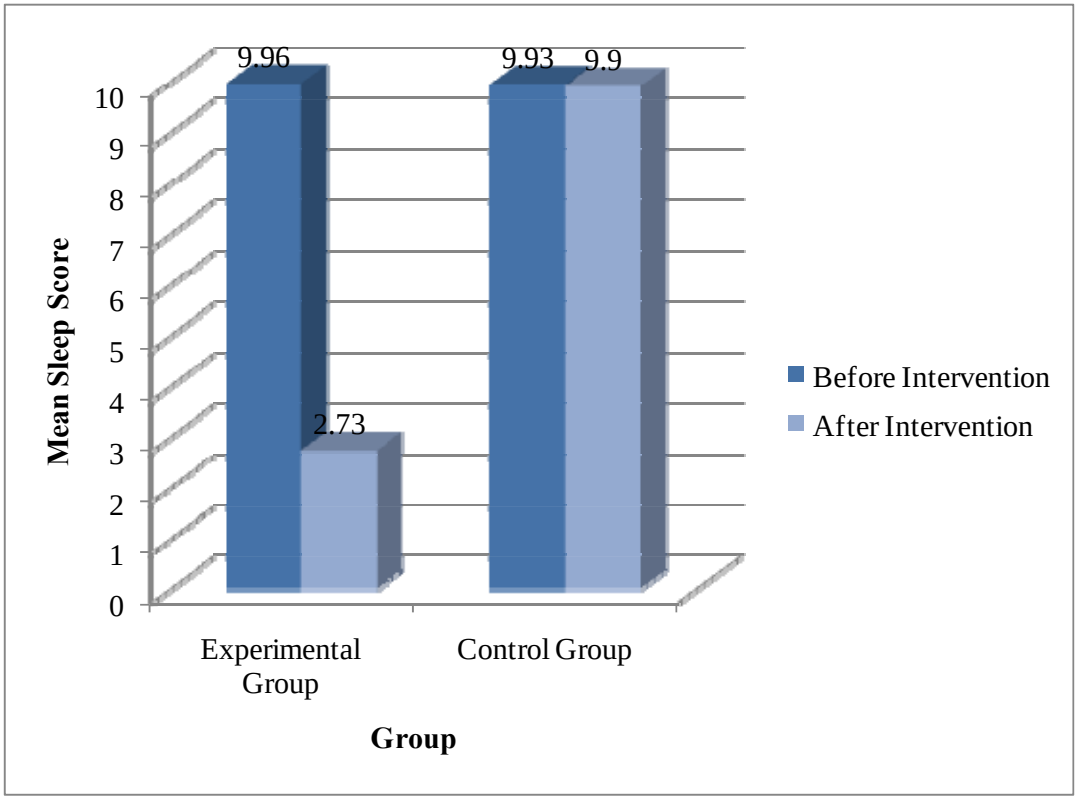

Figure 9: Mean Sleep score percentage of experimental and control group before and after the intervention

SECTION-IV ASSOCIATION OF SELECTED DEMOGRAPHIC CHARACTERISTICS AND OVERALL WELLBEING

TABLE- XVI

ASSOCIATION OF SELECTED DEMOGRAPHIC CHARACTERISTICS OF THE TOTAL SAMPLE WITH OVERALL WELLBEING BEFORE THE INTERVENTION AND LEVEL OF SIGNIFICANCE

N=60

S. No	Demographic variables	Overall wellbeing				$\chi 2$ value P≤0.05	$\chi 2$ table value p≤0.05
		Poor		Very Poor			
		F	%	F	%		
1	**Age in years**						
	a) 60 – 65 years	3	5.00	18	30.00	0.0832NS	df =2
	b) 66 – 70 years	3	5.00	23	38.30		5.99
	c) 71 – 75 years	1	1.70	12	20.00		
2	**Sex**						
	a) Male	4	6.70	28	46.60	0.0358NS	df =1
	b) Female	3	5.00	25	41.70		3.84
3	**Educational status***						
	a) Primary education	4	6.70	35	58.30		
	b) Secondary education	3	5.00	16	26.70	0.1213NS	df = 1 3.84
4	**Health problems**						
	a) Yes	4	6.70	25	41.70	0.2462NS	df =1
	b) No	3	5.00	28	46.60		3.84

***in educational status $\chi 2$ is calculated only for 58 samples**

NS – Not Significant

Table XVI presents the association of selected demographic characteristics with overall wellbeing before the intervention

This table shows that there is no association between the age, sex, educational status and the presence of health problems and level of overall wellbeing in experimental and control group before the intervention.

TABLE- XVII

ASSOCIATION OF SELECTED DEMOGRAPHIC VARIABLES OF THE TOTAL SAMPLE RELATED TO OLDAGE HOME WITH OVERALL WELLBEING BEFORE THE INTERVENTION AND LEVEL OF SIGNIFICANCE

N=60

S. No	Demographic variables	Overall wellbeing				$\chi 2$ value P≤0.05	$\chi 2$ table value p≤0.05
		Poor		Very Poor			
		F	%	F	%		
1	**Duration of stay in oldage home**						
	a) < 1 year	-	-	12	20.00		df =2
	b) 1 – 3 years	3	5.00	22	36.60	1.0036NS	5.99
	c) > 3 years	4	6.70	19	31.70		
2	**Relatives visit in oldage home**						
	a) Yes	5	8.30	37	61.70	0.123NS	df=1
	b) no	2	3.30	16	26.70		3.84

Table XVII presents the association of selected demographic characteristics related to old age home with Overall wellbeing before the intervention.

The above data shows that there is no association between the duration of stay in the old age home, relatives visit and overall wellbeing in experimental and control group before the intervention.

DISCUSSION

CHAPTER V

DISCUSSION

In the discussion section, the researcher draws conclusions about the meaning and implications of the findings. This section tries to unravel what the results mean, why things turned out the way they did and how the results can be used in practice.

This study focused on assessing the effect of calisthenics on overall wellbeing and quality of sleep among elderly people staying in old age home. The findings of the study have been discussed with reference to the objectives of the study.

1. Demographic characteristics of the sample

Table I to III This section deals with the demographic profile of the elderly people in relation to their personal characteristics, old age home and health problems for the experimental and control group

2. Level of Wellbeing of experimental and control group

Table IV explains the level of physical wellbeing in experimental and control group. Before the intervention, in the experimental group majority of the samples 29 (96.70%) had very poor physical wellbeing. After the intervention 18 samples (60%) had good physical wellbeing and 12 samples (40%) had very good physical wellbeing. Similar to the experimental group, majority 28 samples (93.30%) in the control group had very poor level of physical wellbeing at the baseline observation and also continued to have nearly the same in subsequent observation.

Table V shows most of the samples from experimental and control group had poor level of social wellbeing (90 to 96%) before the intervention. After the intervention

the social wellbeing had improved from poor (90%) to good (63.30%) and very good (36.70%) level in the experimental group whereas in the control group the level of social wellbeing had no much change and remained nearly the same as baseline observation.

Table VI presents the level of emotional wellbeing in experimental and control group. Before the intervention in the experimental group majority of the samples 60% had poor emotional wellbeing and 40% of samples had very poor emotional wellbeing whereas after the intervention wellbeing was improved and majority of the samples (90%) had good emotional wellbeing and 1 to 2 samples were either in poor or very good level of wellbeing. In the control group there were no changes in the level of social wellbeing in baseline and at subsequent observation. Majority of the subjects (53.30%) had very poor emotional wellbeing and rest (46.70%) had poor wellbeing.

The present study finding is supported by the study done by **Abbott RD, White LR, et al (2004)** on the effectiveness of aerobic exercises on wellbeing. The study concluded that low intensity aerobic exercises improve the physical and emotional wellbeing of patients who already have Alzheimer's disease.

Table VII demonstrates the level of spiritual wellbeing in experimental and control group. Before intervention majority of samples (66.70%) in experimental group and control group (83.30%) had very poor level of spiritual wellbeing and after the intervention spiritual wellbeing level of experimental group had improved and majority of samples (56.70%) had good spiritual wellbeing and 36.70% had very good level of wellbeing whereas in control group there were no changes in baseline and subsequent observation.

Table VIII explains the overall wellbeing of experimental and control group before and after the intervention. In the experimental group before the intervention majority of the samples 93.33% had very poor overall wellbeing and only 2 samples (6.70%) had poor overall wellbeing whereas after the intervention the overall wellbeing level improved and 24 samples (80%) had good overall wellbeing and 6 samples (20%)

had very good overall wellbeing. In the control group there were no major changes in the level of overall wellbeing in baseline and subsequent observation. Majority of samples (83.30%) had very poor wellbeing and rest had poor wellbeing.

The present study revealed that the level of wellbeing of elderly people was poor in all four dimensions (physical, social, emotional and spiritual wellbeing) before the intervention in both experimental and control group. In the experimental group, the level of overall wellbeing in all four dimensions has significantly improved after the intervention.

The present study finding is supported by the study done by **Harvey Simon (2011)** on the effectiveness of aerobic workouts on elderly people. The finding concluded that there was weight loss and increased muscle tone with aerobics which in turn boost self- esteem.

Table IX the level of physical wellbeing significantly improved in the experimental group (mean score 34.26) compared to control group (mean score 15.76) after the intervention with a statistical significance of $t = 34.98^*$, $df = 58$, $P<0.05$.

Table X in the experimental group mean score of the social wellbeing before the intervention was 22.33 and after the intervention the mean score was 34.40 an improvement of 12.07 was seen. In the control group the mean score on both the observations were nearly the same.

Table XI the emotional wellbeing significantly improved in the experimental group (mean score 32.56) compared to control group (mean score 19.46) after the intervention with a statistical significance of $t = 28.42^*$, $df = 58$, $P<0.05$.

Table XII the spiritual wellbeing significantly improved in the experimental group (mean score 33.36) compared to control group (mean score 17.63) after the intervention with a statistical significance of $t = 26.53^*$, $df = 58$, $P<0.05$.

Table XIII in the experimental group the mean score of overall wellbeing after the intervention was 134.73 whereas in the control group the mean score was 75.03. So there is a significant improvement in the mean overall wellbeing score ($t = 51.50^*$, $df = 58$, $P<0.05$).

The present study findings are consistent with a study done by **Dr. J. Michael Mc. Ginnis** to determine the effect of regular exercise on life of elderly people. The findings revealed that regular physical activity appears to reduce the overall mortality rate and increase the life expectancy by more than 2 years compared with sedentary population.

3. Quality of sleep

Table XIV In the experimental group the overall sleep quality was poor in all the 30 samples before the intervention. After the intervention majority of the samples (86.70%) had good sleep quality, only 4 samples (13.30%) had poor sleep quality. In control group the overall sleep quality was poor in all the 30 samples at base line observation and there was no change in subsequent observation on 30^{th} day also.

The present study finding is supported by **Newman AB (2008)**, who studied subjective and objective sleep quality related to ageing. The results showed that older age was associated with shorter sleep time, diminished sleep efficiency, and more arousals in men and women.

Table XV the quality of sleep significantly improved in the experimental group (mean score 2.73) compared to control group (mean score 9.90) after the intervention with a statistical significance of ($t = 18.22$, $df = 58$, $P<0.05$).

The present study finding is supported by a study done by **Melanie K. Means, Kenneth L. Lichstein (2001)** on the effect of progressive muscle relaxation technique on

insomnia among elderly people. The finding showed that there was improvement in the quality of sleep. The marked improvement in the sleep quality among the elderly people was by the effect of relaxation techniques.

The present study finding is supported by a study done by **Ersser Swiles. A (2000)** on the effect of back massage on sleep of older people in one nursing home. The study revealed that quality of sleep reported by patients in nursing homes was improved after the intervention.

Table XVI to XVII presents the association of demographic variables with study variables

Table XVI There is no association between the age, sex, educational status and health problems and the level of overall wellbeing in experimental and control group before the intervention.

Table XVII There is no association between the duration of stay in the old age home, relatives visit and overall wellbeing in experimental and control group before the intervention.

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SUMMARY,

FINDINGS, CONCLUSION,

IMPLICATION AND

RECOMMENDATIONS

CHAPTER VI

SUMMARY, CONCLUSION, IMPLICATION AND RECOMMENDATIONS

In this chapter summary of the study, summary of the findings, conclusion, implication and, recommendations are presented.

SUMMARY OF THE STUDY

The main aim of the study was to determine whether calisthenics exercise made any significant difference on overall wellbeing and quality of sleep of elderly people living in a selected old age home.

The conceptual framework of the study was based on the Callista Roy's Adaptation theory. The research design used in this study was quasi experimental pretest posttest control group design. The independent variables of the study were calisthenics exercise. Overall wellbeing and Quality of sleep were the dependent variables.

The sample size consisted of 30 old age people in the experimental group from one block of old age home and 30 old age people from another block of old age home in control group, selected by simple random sampling technique. In the pretest data on overall wellbeing was collected by using wellbeing assessment tool and quality of sleep using Pittsburg sleep quality index scale by interview method. For the experimental group calisthenics exercise was taught using a teaching plan in two groups male and female separately, followed by exercising every day for 30 minutes for 30 days in the presence of investigator. Post test data on overall wellbeing and quality of sleep was gathered from both groups on the 30^{th} day. The data was analyzed using descriptive and inferential statistics.

SUMMARY OF THE FINDINGS:

Demographic data

Most of the samples 23 - 24 (76.70% to 80%) in control and experimental groups were between 60 – 70 years of age and the rest above 70 years of age.

There was equal distribution of male and female in experimental group. In control group 17 samples (56.7%) were male and 13 samples (43.3%) were female.

Most of the samples 19 – 20 (63.30% to 66.70%) were married in both the groups similarly most of the samples 19 - 20 (63.30% to 66.70%) had primary education and rest with secondary education in both the groups.

All the samples in control group and 29 samples (96.7%) in the experimental group were not engaged in regular physical activity and regarding sleep medications majority of samples in control group and all the samples in experimental group had never taken sleep medications.

Nearly half of the samples had either done daily activities with assistance or without assistance in both the groups.

3 samples (10%) in the experimental group and 9 samples (30%) in the control group had less than one year of stay in the old age home and rest of the samples had more than 1 year of stay in the old age home.

Majority of the samples 20 to 22 (66.7% to 73.3%) in both the groups had visitors visiting them regularly and rest had no visitors. Most of the samples 16 to 18 (53.3% to 60%) were receiving their pension in both the groups and rest of them were receiving financial support from family.

Nearly half of the samples (46.7% to 56.7%) in both the groups were free from physical illness. 15 samples (36.64%) in experimental group and 16 samples (53.30%) in control group were affected by single disease. 2 samples (6.60%) in experimental group were affected by more than one physical illness. In experimental group the diseases were equally distributed whereas in control group Diabetes mellitus was outstanding.

Wellbeing in experimental and control group in four dimensions (physical, social, emotional, and spiritual)

Physical wellbeing

Before the intervention, in the experimental group majority of the samples 29 (96.70%) had very poor physical wellbeing. After the intervention 18 samples (60%) had good physical wellbeing and 12 samples (40%) had very good physical wellbeing. Similarly majority 28 samples (93.30%) in the control group had very poor level of physical wellbeing at the baseline observation and also continued to have nearly the same in subsequent observation.

In the experimental group the mean score of physical wellbeing increased from 15.16 to 34.26 after the intervention. In the control group the mean score of physical wellbeing remained nearly the same before and after the intervention.

Social wellbeing

Before the intervention majority of the samples from experimental and control group had poor level of social wellbeing (90 to 96%). After the intervention 19 samples (63.30%) in the experimental group had good wellbeing and 11 samples (36.70%) had very good wellbeing whereas in the control group there was no marked change in the level of social wellbeing in both the baseline and subsequent observation.

In the experimental group mean score of the social wellbeing increased from 22.33 to 34.40 after the intervention. In the control group the mean score on both the observations were nearly the same.

Emotional wellbeing

Before the intervention in the experimental group majority of the samples 60% had poor emotional wellbeing and 12 samples (40%) had very poor emotional wellbeing whereas after the intervention wellbeing was improved and majority of the samples (90%) had good emotional wellbeing and 1 to 2 samples were either in poor or very good level

of wellbeing. In the control group there were no changes in the level of social wellbeing in baseline and at subsequent observation. The mean score of emotional wellbeing significantly improved from 19.46 to 32.56 in the experimental group whereas in the control group the mean score was same before and after the intervention.

Spiritual wellbeing

Before intervention majority of samples (66.70%) in experimental group and control group (83.30%) had very poor level of spiritual wellbeing and after the intervention spiritual wellbeing level of experimental group had improved and majority of samples (56.70%) had good spiritual wellbeing and 11 samples (36.70%) had very good level of wellbeing whereas in control group there were no changes in baseline and subsequent observation. The mean score of spiritual wellbeing significantly improved from 18.06 to 33.36 in the experimental group whereas in the control group the mean score was nearly the same before and after the intervention.

Overall wellbeing

In the experimental group before the intervention majority of the samples 93.33% had very poor overall wellbeing and only 2 samples (6.70%) had poor overall wellbeing whereas after the intervention the overall wellbeing level improved and 24 samples (80%) had good overall wellbeing and 6 samples (20%) had very good overall wellbeing. In the control group there were no major changes in the level of overall wellbeing in baseline and subsequent observation. Majority of samples (83.30%) had very poor wellbeing and rest had poor wellbeing. The mean score of overall wellbeing significantly improved from 75.36 to 134.73 in the experimental group whereas in the control group the mean score was nearly the same before and after the intervention.

Quality of sleep in experimental and control group

In the experimental group the overall sleep quality was very poor in majority of the samples (93.33%) before the intervention. After the intervention the overall sleep quality was good in 24 samples (80%) and very good in 6 samples (20%) in experimental group. In control group the overall sleep quality was very poor in majority of the samples at base line observation and remained nearly the same in subsequent observation.

Before the intervention the mean sleep score of experimental group was 9.96 and control group was 9.93. After the intervention the mean sleep score of experimental group was 2.73 and in the control group the score was 9.90 which was nearly the same as subsequent observation.

Quality of sleep was poor in the experimental and control group irrespective of demographic variables before the intervention. So it could not be associated with demographic variables.

SIGNIFICANT FINDINGS

- There was a significant improvement in the physical wellbeing of the experimental group compared to the control group after the intervention ($t = 34.98$, $df = 58$, $P<0.05$)
- There was a significant improvement in the social wellbeing of the experimental group compared to the control group after the intervention ($t = 26.94$, $df = 58$, $P<0.05$)
- There was a significant improvement in the emotional wellbeing of the experimental group compared to the control group after the intervention ($t = 28.42$, $df = 58$, $P<0.05$)
- There was a significant improvement in the spiritual wellbeing of the experimental group compared to the control group after the intervention ($t = 26.53$, $df = 58$, $P<0.05$)
- There was a significant improvement in the overall wellbeing of the experimental group compared to the control group after the intervention ($t = 51.50$, $df = 58$, $P<0.05$)

- There was a significant improvement in the quality of sleep of the experimental group compared to the control group after the intervention ($t = 18.22$, $df = 58$, $P<0.05$)

CONCLUSION

The findings of the study concluded that there was a significant improvement in the overall wellbeing in four dimensions (physical, social, emotional and spiritual) in the experimental group after the intervention. There was an improvement in the quality of sleep in experimental group after the intervention. It could be finally concluded that the improvement in overall wellbeing and quality of sleep in the experimental group could be attributed to the effect of calisthenics exercise. The control group without intervention did not show any difference in the overall wellbeing and quality of sleep after 30 days.

IMPLICATIONS

The findings of the study have implication for Nursing Education, Nursing Service, Nursing Administration and Nursing Research.

Nursing practice

Nurses play an important role in providing care to the old age people. The findings of the study indicate the benefit of calisthenics exercise to old age people with poor wellbeing and sleep disorders. The health team members should be encouraged to teach the exercise to the old age people. To emphasize the present study findings to the management of the old age home and encourage the management to appoint the separate trained person to teach the exercise to the old age people. It can be implemented in nursing practice in all the settings.

Nursing education

The finding of the study emphasizes the effect of calisthenics on wellbeing and sleep. The importance of exercise during the old age period can be taught to the nursing students and graduate nurses and this can be incorporated in the care of old age people. This will help the people to cope with physiological issues and sleep disturbance.

Nursing administration

The nursing administrator can arrange in-service education regarding complimentary therapies to the nursing personnel. The nursing administrator can organize conferences, seminars and workshops for nurses working in geriatric settings to encourage a positive attitude on calisthenics exercise. The nurse administrator should take more responsibility to implement a protocol of for old age patients admitted in geriatric wards.

Nursing research

The study is a preliminary set up for exploring the concept of calisthenics exercise on wellbeing and quality of sleep of elderly people. More research can be conducted to check the effectiveness of calisthenics exercise on various other symptom experiences such as anxiety and pain in hospital settings also.

RECOMMENDATIONS FOR THE FURTHER RESEARCH

- The study can be replicated on a larger sample for generalization of the findings.
- The study can be conducted in different settings for different populations
- A comparative study can be conducted with males and females.

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APPENDICES

APPENDIX – I

LETTER SEEKING PERMISSION TO CONDUCT THE STUDY

To

The Chairman,

Vanaprastha,

Kasthuri Naickan Palayam,

Vadavalli,

Coimbatore.

Respected Sir / Madam

Sub: Permission requested for conducting Nursing research-Reg.

We request you to kindly grant permission for our II year M.Sc Nursing student _____ to do her research in your esteemed Senior Citizen's home during the month of September as a partial fulfillment of the University requirements.

The topic is **"A study to assess the effect of selected Calisthenics on Quality of Sleep and Wellbeing among old age people in a selected old age home at Coimbatore".**

Kindly oblige and do the needful

Thanking You

Yours faithfully

Principal

Place:

Date:

From

The Chairman

Vanaprastha

Kasthuri Naicken Palayam

Vadavalli

Coimbatore

To

The Principal

RVS College Of Nursing

Sulur

Coimbatore

Respected Sir/Madam,

This is to certify that Ms. P.Jayanthi, M.Sc. nursing II year of RVS college of nursing has undergone the research study on the title of" **A study to assess the effect of selected calisthenics on sleep and well-being of the elderly in a geriatric home, Coimbatore"**during the month of September 2011 in our Vanaprastha senior citizen home, Vadavalli.

Thanking you

Yours faithfully

VANAPRASTHA
SENIORS CITIZEN COMPLEX
KASTHURI NAICKENPALAYAM
VADAVALI (Post)
COIMBATORE-641 041
☎ : 401177

APPENDIX - II

REQUISITION LETTER FOR CONTENT VALIDITY

From

30104604,

M.Sc (N) II year,

RVS College of Nursing,

Sulur, Coimbatore- 641402

To

Through the principal

Respected Sir/Madam

Sub : Letter requesting opinion and suggestion of experts for establishing content validity of the tool.

I am a M.Sc (N) student in RVS College of Nursing, sulur, Coimbatore in the specialty of Medical Surgical Nursing. As per the requirement for the partial fulfillment of this nursing degree under the Tamil Nadu Dr. MGR Medical University, I have selected the following topic for dissertation. **"A study to assess the effect of selected Calisthenics on Quality of Sleep and Wellbeing among old age people in a selected old age home at Coimbatore".**

I kindly request you to go through the research tool and validate against criteria given in the sheet.

Thanking you

Yours faithfully

30104604

Place:

Date:

APPENDIX - III

CERTIFICATE OF CONTENT VALIDITY

This is to certify that tool developed by 30104604, M.Sc Nursing II year student, R.V.S. College of Nursing, Sulur, and Coimbatore to collect data on the problem.

"A study to assess the effect of selected Calisthenics on Quality of Sleep and Wellbeing among old age people in a selected old age home at Coimbatore".

Is validated by the undersigned and she can proceed with this tool to conduct the main study.

Name and Address :

Signature :

Seal :

Date :

LIST OF EXPERTS

Medical Expert

1. **Dr. U.M. Natarajan, MD, C.DIAB**
   Professor(Rtd),CMCH,Coimbatore,
   Consultant physician & Cardiodiabetologist,
   R.V.S Multi Speciality Hospital,
   Sulur, Coimbatore - 641402. _____

Clinical psychologist

2. **Dr. P.T. Saleendran, Ph.D,**
   Assistant Professor in management,
   D. J. Academy for Managerial Excellence,
   Coimbatore - 32 _____

Nursing experts

3. **Mr. Balasubramanian, M.Sc (N),**
   Professor in Medical Surgical Nursing,
   KMCH College of Nursing,
   Coimbatore – 14. _____

4. **Mrs. Lavanya, Msc (N),**
   Associate professor,
   H.O.D, Medical Surgical Nursing Department,
   PPG College of Nursing,
   Coimbatore – 35. _____

5. **Mrs. M. D. Anuratha, M.Sc (N),**
   Associate Professor in Medical Surgical nursing,
   PSG College of Nursing,
   Coimbatore – 4. _____

APPENDIX – IV

CRITERIA RATING SCALE FOR VALIDATION

INSTRUCTION

The expert is requested to go through the following criteria for evaluation of check list. Three columns are given for response and a column for remarks. Kindly place a tick mark in the appropriate column and give remarks.

Sl No	Items	Clarity	Relevancy	Adequacy	Remark
	Section - A Demographic data				
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10					
11.					
	Section – B Interview schedule to assess the Quality of sleep for past one month				
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					

9.					
	Section – C **Interview schedule to assess the level of wellbeing**				
I	**Physical wellbeing**				
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
II	**Social wewllbeing**				
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
III	**Emotional wellbeing**				
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
IV	**Spiritual wellbeing**				
1.					

2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					

Any other Suggestions

……

……

Signature :

Name, Designation :

Address :

APPENDIX-V

REQUISITION LETTER FOR CO- GUIDE

From

30104604,
II Year M.Sc Nursing,
R.V.S College of Nursing,
Sulur, Coimbatore.

To

Dr.P.T. Saleendran, Ph.D,

Clinical Psychologist,

Assistant Professor in management,

D .J. Academy for Managerial Excellence,

Coimbatore.

Respected Sir/Madam,

SUB; Request for Co-Guide

I wish to state that I am II year M.Sc Nursing student of R.V.S College of nursing have selected the below mentioned topic for dissertation as a partial fulfillment for the Master of Nursing degree to The Tamil Nadu Dr. MGR Medical University.

"A study to assess the effect of selected Calisthenics on Quality of Sleep and Wellbeing among old age people in a selected old age home at Coimbatore"

Regarding this I am in need of your valuable help and co-operation by providing services to be a Co-guide for my study.

I humbly request your highness to consider the same and do the needful.

Thanking you Yours sincerely

Date: 30104604

Time:

APPENDIX – VI

RESEARCH TOOL

INTERVIEW SCHEDULE ON SLEEP AND WELLBEING

INTRODUCTION:

Everyone born in this world becomes old. During oldage, some people are able to continue the activities and thoughts with the same spirit as they have been doing in their adulthood ages. But some may find difficult to cope up with this period and may express physical and psychological disturbances and may depend on others.

PURPOSE:

The purpose of this interview is to find out the sleep pattern and quality of sleep during the past month and the level of well – being (i.e. physical, social, emotional & spiritual) among the elderly people in the old age home.

INSTRUCTION:

Kindly give your free and frank answer to the questions. Your answers will be kept confidential.

SECTION A

Demographic Data

1. Sample No:
2. Age
   a) 60 - 65 yrs
   b) 66 - 70 yrs
   c) 71 - 75 yrs
   d) 76 - 80 yrs
3. Gender
   a) Male
   b) Female

4. Marital Status
   a) Married
   b) Unmarried
   c) Widow / widower
   d) Divorced

5. Educational status
   a) No Schooling
   b) Primary Education
   c) Secondary Education
   d) Collegiate Education

6. How long are you staying in the old age home?
   a) Less than 1 year
   b) 1 – 3 Years
   c) Above 3 years

7. Does any relative visit you in the old age home?
   a) Yes
   b) No

8. Source of financial support?
   a) Pensioner
   b) Family
   c) Any other specify
   d) ——————————

9. Are you suffering from any health problems?
   a) Yes
   b) No

   If yes, mention

   ……..

10. Do you engage in any form of physical activities regularly?

    a) Yes
    b) No

    If yes, mention the activity

    ……

11. Are you taking medicines for sleep daily?

    a) Yes

    b) No

12. Are you able to do your daily activities without assistance ?

    a) Yes

    b) No

    If no in which aspect you need assistance, specify

    ……

SECTION – B

Pittsburg Sleep quality Index

Introduction:

Sleep is important to everyone in order to refresh and carry out the function of the next day. Some people will be having good sleep but some may experience some disturbances in getting sleep.

Instructions:

Kindly answer the following questions. Your answers will be kept confidential.

1. At what time do you go to sleep daily?

2. How long (in Minutes) does it take for you to fall asleep each night?

3. At what time do you wake up in the morning?

4. How many hours of actual sleep do you get at night?

5. Kindly put the tick mark in the box as it is applicable for you

	Not during the past month (0)	Less than once a week (1)	Once or twice a week (2)	Three or more time a week (3)
a) During the past month how often you could not get sleep with in 30 minutes?				
b) Did you wake up in the middle of the night or early				

morning?				
c) Did you wake up in the middle of the night to use the bathroom?				
d) Did you have breathing difficulty during sleep?				
e) Did you snore or cough loudly?				
f) Did you feel too cold in the night?				
g) Did you feel too hot in the night?				
h) Did you suffer because of bad dreams?				
i) Did you suffer from disturbed sleep because of pain?				
j) Did you have any other reason for sleep disturbance?				

	Not during the past month (0)	Less than once a week (1)	Once or twice a week (2)	Three or more time a week (3)
6. During the past month, how often have you taken medication to help you get sleep?				
7. During the past month, how often have you had trouble staying awake while driving, eating meals, or engaging in social activity?				
8. During the past month how much of a problem has it been for you to keep up the enthusiasm to get things done.				
	Very good (0)	Fairly Good (1)	Fairly Bad (2)	Very Bad (3)
9. During the past month what would you say about your sleep pattern				

SCORING

Final Score – Add the entire seven components final score

<5 Good sleep quality

>5 Poor sleep quality

SECTION-C

MODIFIED WELLBEING ASSESSMENT SCALE

Introduction:

Well being is the measure of happiness or satisfaction in life. It is the feeling that the life is worthwhile. Well being is not static, it keeps on changing in everyone's life due to maturational changes and circumstances.

Instructions:

Kindly give your response. There is no right or wrong answer. Your answers will be kept confidential.

Fewer questions will be asked to find out how well you feel about yourself, your life and staying with others

PHYSICAL WELLBEING

	Rarely	Some times	Most the time	Always
1. Do you maintain a desirable weight?				
2. Do you perform exercises to strengthen your muscles and joints?				
3. Do you engage in exercises like walking?				
4. Are you performing some preparations like stretching the arms and legs before and after exercises?				
5. Do you feel good about the condition of your body?				
6. Do you get 7 – 8 hours of sleep each night?				
7. Do you think that your immune system is strong and you are able to avoid most infectious diseases?				
8. Does your body heals itself quickly when you get sick or injured?				
9. Do you get tired easily?				
10. Do you consult the doctor immediately when you become sick?				

SOCIAL WELLBEING

	Rarely	Some times	Most the time	Always
1. When you meet people do you feel good about the impression you make on them?				
2. Are you open, honest and get along well with other people?				
3. Do you participate in a wide Variety of social activities and enjoy being with other people?				
4. Have you tried to overcome the problems that you have met with others?				
5. Do you get along well with the members staying with you?				
6. Are you a good listener?				
7. Are you open and accessible to a loving and responsible relationship?				
8. Do you have someone to talk about your private feelings?				
9. Do you consider the feelings of others and do not behave in hurtful or selfish ways?				
10. Do you consider how your speech might be perceived by others before you speak?				

EMOTIONAL WELLBEING

	Rarely	Some times	Most the time	Always
1. Do you find it easy to laugh about things that happen in your life?				
2. Do you avoid using alcohol as a means of helping you to forget your problems?				
3. Can you express your feelings without feeling silly?				
4. When you are angry will you try to let others know in non-confrontational and non-hurtful ways?				
5. Are you a chronic worrier?				
6. Do you recognize your stressful situation and take steps to relax through exercise or other activities				
7. Do you feel good about your self and believe others like you?				
8. Do you talk to others when you become upset and actively try to work through your problems?				
9. Are you flexible and adaptable or adjustable to change in a positive way?				
10. Do your friends regard you as a stable, emotionally well adjusted person?				

SPIRITUAL WELLBEING

	Rarely	Some times	Most the time	Always
1. Do you believe life is a precious gift?				
2. Are you taking time to enjoy nature and the beauty around you?				
3. Do you take time to think about what's important in life?				
4. Do you have belief in the importance of things beyond yourself?				
5. Do you engage in acts of caring and good will without expecting something in return				
6. Do you feel sorrow for those who are suffering and try to help them through difficult times?				
7. Do you feel confident that you have touched the lives of others in a positive way?				
8. Do you work for peace in your interpersonal relationship?				
9. Are you satisfied with whom you are?				
10. Do you experience life to the fullest?				

Comparing scores in each of the dimension to ideal score

	Ideal Score	Your Score
Physical Wellbeing	40	
Social Wellbeing	40	
Emotional Wellbeing	40	
Spiritual Wellbeing	40	

Scoring:

For each well being dimension:

Score 35 - 40: very good

Score30 - 35: good

Score20 -30: poor

Score 10 - 20: very poor

For overall well being:

Score 140 - 160: very good

Score 120 - 140: good

Score 80 - 120: poor

Score 40 - 80: very poor

This tool is adapted from that at the McKinley health Centre at the University of Illinois

A ORIGINAL WELLBEING ASSESSMENT TOOL

- Many of us recognize the importance of wellbeing, but it is easy to get caught up in our busy schedules to the neglect of some of our needs.
- Find out your level of wellbeing by rating each of the following dimensions.
- Circle the number that best describes you.

	Very Unhealthy	Somewhat Unhealthy	Somewhat Healthy	Very Healthy
Physical Health	1	2	3	4
Social Health	1	2	3	4
Emotional Health	1	2	3	4
Spiritual Health	1	2	3	4
Intellectual Health	1	2	3	4

After completing the above section, decide which area(s), if any, you think you should work on improving. Now answer the following set of questions regarding each dimension of wellness. Indicate how often you think the statements describe you

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PHYSICAL HEALTH

	Rarely if ever	Some times	Most the time	Always
1. I maintain a desirable weight	1	2	3	4
2. I engage in vigorous exercises such as brisk walking	1	2	3	4
3. I do exercises designed to strengthen my muscles and joints	1	2	3	4
4. I warm up and cool down by stretching before and after vigorous exercise	1	2	3	4
5. I feel good about the condition of my body.	1	2	3	4
6. I get 7-8 hours of sleep each night	1	2	3	4
7. My immune system is strong and I am able to avoid most infectious diseases	1	2	3	4
8. My body heals itself quickly when I get sick or injured.	1	2	3	4
9. I have lots of energy and can get through the day without being overly tired	1	2	3	4
10. I listen to my body; when there is something wrong, I seek professional advice	1	2	3	4

SOCIAL HEALTH

	Rarely if ever	Some times	Most the time	Always
1. When I meet people, I feel good about the impression I make on them	1	2	3	4
2. I am open, honest, and get along well with other people.	1	2	3	4
3. I participate in a wide variety of social activities and enjoy being with people who are different than me	1	2	3	4
4. I try to be a "better person" and work on behaviours that have caused problems in my interactions with others	1	2	3	4
5. I get along well with the members of my family	1	2	3	4
6. I am a good listener	1	2	3	4
7. I am open and accessible to a loving and responsible relationship	1	2	3	4
8. I have someone I can talk to about my private feelings.	1	2	3	4
9. I consider the feelings of others and do not act in hurtful or selfish ways	1	2	3	4
10. I consider how what I say, might be perceived by others before I speak	1	2	3	4

EMOTIONAL HEALTH

	Rarely if ever	Some times	Most the time	Always
1. I find it easy to laugh about things that happen in my life.	1	2	3	4
2. avoid using alcohol as a means of helping me forget my problems.	1	2	3	4
3. I can express my feelings without feeling silly.	1	2	3	4
4. When I am angry, I try to let others know in non-confrontational and non-hurtful ways	1	2	3	4
5. I am a chronic worrier	4	3	2	1
6. I recognize when I am stressed and take steps to relax through exercise, quiet time, or other activities.	1	2	3	4
7. I feel good about myself and believe others like me for who I am.	1	2	3	4
8. When I am upset, I talk to others and actively try to work through my problems	1	2	3	4
9. I am flexible and adapt or adjust to change in a positive way	1	2	3	4
10. My friends regard me as a stable, emotionally well-adjusted person	1	2	3	4

SPIRITUAL HEALTH

	Rarely if ever	Some times	Most the time	Always
1. I believe life is a precious gift that should be nurtured	1	2	3	4
2. I take time to enjoy nature and the beauty around me.	1	2	3	4
3. I take time alone to think about what's important in life - who I am, what I value,where I fit in, and where I'm going.	1	2	3	4
4. I have belief in the importance of things beyond myself	1	2	3	4
5. I engage in acts of caring and good will without expecting something in return	1	2	3	4
6. I feel sorrow for those who are suffering and try to help them through difficult times	1	2	3	4
7. I feel confident that I have touched the lives of others in a positive way	1	2	3	4
8. I work for peace in my interpersonal relationships, in my community, and in the world at large	1	2	3	4
9. I am content with who I am	1	2	3	4
10. I go for the gusto and experience life to the fullest.	1	2	3	4

INTELLECTUAL HEALTH

	Rarely if ever	Some times	Most the time	Always
1. I tend to act impulsively without thinking about the consequences	1	2	3	4
2. I learn from my mistakes and try to act differently the next time	1	2	3	4
3. I follow directions or recommended guidelines and act in ways likely to keep others and myself safe	1	2	3	4
4. I consider the alternatives before making decisions.	1	2	3	4
5. I am alert and ready to respond to life's challenges in ways that reflect thought and sound judgment	1	2	3	4
6. I tend to let my emotions get the better of me and I act without thinking.	1	2	3	4
7. I actively try to learn all I reasonably can about an issue before making decisions	1	2	3	4
8. I manage my time well, rather than time managing me	1	2	3	4
9. My friends and family trust my judgment	1	2	3	4
10. I think about my self-talk (the things I tell myself) and then examine the real evidence for my perceptions and feelings	1	2	3	4

Personal Checklist

Now, total your scores in each of the dimensions and compare it to the ideal score. Which areas do you need to work on? How does your score compare with how you rated yourself in the first part of the questionnaire?

	Ideal Score	Your Score
Physical Health	40	
Social Health	40	
Emotional Health	40	
Spiritual Health	40	
Intellectual Health	40	

What Your Scores Mean

Scores 35 - 40: Outstanding! Your answers show that you are aware of the importance of this area to your overall wellbeing. More importantly, you are putting your knowledge to work for you by practicing good wellbeing habits. It's likely that you are setting an example for your family and friends to follow. Although you received a very high score on this part of the test, you may want to consider other areas where your scores could be improved. Counselling Service

Scores of 30-35: Your wellbeing practices in this area are good, but there is room for improvement. Look again at the items you answered that scored one or two points. What changes could you make to improve your score? Even a small change in behaviour can often help you achieve greater wellbeing.

Scores of 20-30: Your have some wellbeing risks. You may benefit from more information about the challenges you are facing. Perhaps you need help in deciding how to make the changes you desire. Help is available from the University. You can schedule an appointment with one of our Counselling Service staff for a personal and confidential one-on-one session.

Scores below 20: You may be taking serious and unnecessary risks with your health. Perhaps you are not aware of the risks and what to do about them. Contact the University Health Service or the University Counselling Service.

This tool is adapted from that at the McKinley Health Centre at the University of Illinois:

APPENDIX VII

LESSON PLAN

ON CALISTHENICS EXERCISE

LESSON PLAN

Topic	:	Calisthenics exercise
Number of samples	:	10 to 12 at a time
Duration	:	40 minutes
Place	:	Private room or open ground
Method of teaching	:	Discussion cum demonstration
AV aids	:	Charts

Central objective **:** At the end of the teaching, elderly people acquire knowledge about calisthenics exercise and able to carry out the same in the following days.

Specific objectives **:** Elderly people are able to

1. describe the meaning of calisthenics exercise
2. list the advantages of calisthenics exercise
3. understand the guidelines to be followed before performing the calisthenics exercise
4. enumerate the importance of warming up and cooling down in calisthenics exercise
5. perform calisthenics exercise

S. No	Time	Specific objectives	Content	Teaching & learning activity	Av aids
1	2 mts	Introduction	**INTRODUCTION** Good Morning to all. Everybody wants to enjoy a long and healthy life. It is possible with the lifestyle choices that include a healthy diet, regular exercise, and maintaining normal weight. As we grow old, so many changes occur in our body. Exercise is an important way for elderly people to adjust with these changes. Regular exercise will promote the health and prevent disease. Today we are going to learn about calisthenics exercises that help you to improve your sleep and overall wellbeing.	Introducing the topic by asking questions. How many of you are doing exercise every day?	
2	5 mts	Elderly people are able to explain calisthenics exercise	**Calisthenics Exercise** **Calisthenics** are a form of dynamic exercise consisting of a variety of simple, often rhythmical, movements, generally using minimal equipment or apparatus. The weight of the own body is used as resistance to build body strength and suppleness.	Explaining about calisthenics exercise	

3	5 mts	Elderly people are able to explain the advantages of calisthenics exercise	**Advantages of Calisthenics** • Calisthenics stretches and contracts the muscles and stimulates breathing thereby improving blood circulation and lung function and also strengthens the respiratory muscles. • Weight-bearing exercises also strengthen bones and may help to decrease the risk of osteoporotic fractures. • It leads to an improvement in overall strength and energy of the body, in turn promoting overall health. • It has been known to improve mental health, which in turn helps in treating depression, stress, anxiety, and the like. • It can help to burn unwanted fat in the body, thus helps to maintain body weight. • It helps to strengthen the muscles, including skeletal and cardiac muscles of the body. • Indulging in calisthenics exercises on a regular basis can help to improve the body's resistance, in turn helping it fight against several diseases. • When it is done on a regular basis, can provide relief from various body and muscle pains. • It is known to promote vigor, resistance, flexibility, agility and coordination in the body muscles. • In calisthenics, even a few exercises can help to work the entire	Explaining about the advantages of calisthenics exercise	

4 5	2mts 3 mts	Understand the guidelines to be followed before performing calisthenics. Enumerate the importance of warming up and cooling	muscle group of the body. • One of the significant advantages of calisthenics exercises is that they help exercising the body in a total and balanced manner. • It increases the heart beat rate of a person, thus improving the health of his heart and lowering the risk of cardiovascular diseases. **Guidelines to be followed before exercise** ✓ Practice 30 minutes per day ✓ Practice it in a quiet location ✓ Practice at regular time ✓ Tight clothing should be loosened ✓ Assume a comfortable position **Importance of warming up and cooling down in calisthenics exercise** Warming up and cooling down are important parts of every exercise routine. They help the body to make the transition from rest to activity and back again, and can help prevent soreness or injury, especially in older people. • Practice warm-up exercises for 5 - 10 minutes at the beginning	Description about the guidelines have to be followed before performing the calisthenics exercise Explaining about the importance of warming up and cooling down in	

6	20 mts	down in calisthenics exercise. Perform calisthenics exercise	of an exercise session. Walking is ideal to warm up the body. • To cool down walking slowly until the heart rate is 10 - 15 beats above the resting heart rate is necessary. Stopping too suddenly can sharply reduce blood pressure, and is dangerous for older people. It may also cause muscle cramping. **Calisthenics exercise** This can be performed in the orderly way. ➢ **Warming up** – the first step before starting exercise is to warm up the body so that the old age person is asked to walk slowly for 5 minutes. ➢ **Arm Rotation -** in this exercise the old age person is instructed to stretch the arms horizontally and flex the elbows so that the fingers rest on the shoulders and do the rotation both clockwise and anti- clockwise direction for 5 times in each side ➢ **Hip Rotation -** Begin this exercise by standing straight and placing your hands on your hips. Then slowly move your hip in clockwise direction and then in anticlockwise direction. Perform for 5 times. ➢ **Ankle rotation –** sitting in the chair and by placing one leg on	calisthenics Demonstrate the technique, explain each steps, Re demonstrate, group practice,	charts

7 8	2 mts 1mt		the floor and extending another leg gently rotate the ankle of extended leg in both clockwise and anticlockwise direction. Perform for 5 times. ➢ **Forward bends** – the old age person has to stand straight and then bend forward without bending the knees and do the forward bend for 5 times. ➢ **Side bends** – in this exercise the old age person has to stand straight and then bend sideways forming c- shaped arc. It helps to strengthen the tarsus muscle. Hold this for count of 10 seconds. ➢ **Cooling down –** final step is to cool down the body so that the old age person has to walk slowly for 5 minutes and gradually cool down the body. **CONCLUSION:** So far we have learned, what is Calisthenics Exercise, advantages and how to do these calisthenics exercise. **Follow up:** Carry out these calisthenics exercise for 30 days, 20 to30 minutes per day from 5 pm to 5.30 pm. **Bibliography:**	discussion Instruction and Discussion	

			1. Hackensmith, Charles W. (1966), **History of Physical Education,** New York: Harper and Row. 2. Massengale, John D. et al, (1997), **The History of Exercise and Sport Science,** 1st edition, Champaign IL: Human Kinetics. 3. Fabre C, Chamari, K., et al (2002), "Improvement of cognitive function by mental and/or individualized aerobic training in healthy elderly subjects", **International Journal of Sports Medicine,** 23: 415-421 **Net references:** 1. http://www.ibws.ethz.ch. 2. http://www.ncbi.nlm.nih.gov.		

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6.	¿£í¸û ¾¢É°¡¢ °¡¢Â¡¸ 7-8 Á½¢ §¿Ãõ Å¨Ã ¯ÈíÌ¸¢È£÷¸Ç¡?				
7.	¿£í¸û ¯í¸û §¿¡ö ±¾¢÷ôÒ °ì¾¢ ¾¢Èý ÅÖÅ¡¸ ¯ûÇÐ ±ýÚõ, «¾É¡ø ¦¾¡üÚ §¿¡ö¸û ¯í¸¨Ç ¾¡ìÌÅÐ þø¨Ä ±ýÚõ ±ñÏ¸¢È£÷¸Ç¡?				
8.	¯í¸û ¯¼õÀ¢ø ¸¡Âí¸û ²üÀð¼¡ø ¯¼ÉÊÂ¡¸ Ì½Á¨¼óÐ Å¢ÎÁ¡?				
9.	¿£í¸û ±Ç¢¾¢ø §°¡÷Å¨¼óÐ Å¢ÎÅ£÷¸Ç¡?				

10.	¯í¸ÙìÌ ¯¼ø¿Äì Ì¨È× ²üÀð¼¡ø, ¯¼ÉÊÂ¡¸ ÁÕòÐÅ¨Ã «ÏÌÅ£÷¸Ç¡?				

°ã¸ ¿Äò ¾¢ÈÝ

		±ô¦À¡Ø ¾¡ÅÐ	**°¢Ä §¿Ãí¸ Ç¢ø**	**ÀÄ §¿Ãí¸ Ç¢ø**	**±ô¦À¡ ØÐõ**
1.	¿£í¸û ÁüÈÅ÷¸¨Ç °ó¾¢ìÌõ §À¡Ð «Å÷¸û §Áø ¿ýÁ¾¢ôÒ ¨ÅôÀ£÷¸Ç¡?				
2.	¿£í¸û ÁüÈÅ÷¸Ù¼ý ¦ÅÇ¢ôÀ¨¼Â¡¸×õ, §¿÷¨ÁÂ¡¸×õ ÀÆÌÅ£÷¸Ç¡?				
3.	¿£í¸û °Ó¾¡Âò¾¢ø ¿¼ìÌõ ¦À¡Ðì¸¡¡¢Âí¸Ç¢ø «¾¢¸Á¡¸ ®ÎÀÎÅ£÷¸Ç¡? §ÁÖõ «¾ý ãÄõ Á¸¢úî°¢ «¨¼Å£÷¸Ç¡?				
4.	ÁüÈÅ÷¸û ãÄõ ¯í¸ÙìÌ ²üÀÎõ À¢ÃîÀ°¢¨É¸¨Ç °¡¢ ¦°öÅ¾üÌ ÓÂü°¢ ±ÎòÐûÇ£÷¸Ç¡?				
5.	¯í¸Ù¼ý ¾í¸¢ þÕôÀÅ÷¸Ç¢¼õ ¿ýÓ¨ÈÂ¢ø ÀÆÌÅ£÷¸Ç¡?				
6.	¿£í¸û ±øÄ¡ì ¸¡¡¢Âí¸¨ÇÔõ ¯üÚ ¸ÅÉ¢ìÌõ ÀÆì¸õ ¯¨¼ÂÅÃ¡?				
7.	¯í¸û «ýÀ¡É §¿÷¨ÁÂ¡É ¯È×¸¨Ç ¾¢Èó¾ ÁÉÐ¼ý ²üÚì¦¸¡ûÀÅÃ¡?				
8.	¯í¸ÙìÌ ÁÉõ ¾¢ÈóÐ ¦°¡ó¾ Å¢„Âí¸¨Ç À¸¢÷óÐ ¦¸¡ûÇ Â¡§ÃÛõ ¯ûÇÉÃ¡?				

9.	¿£í¸û ÁüÈÅ÷¸û ÁÉ¿¢¨Ä¨Â Ò¡¢óÐ¦¸¡ñÎ «¾üÌ ²üÈ¡ü§À¡ø «Å÷¸û ÁÉÐ ÒñÀ¼¡ÁÖõ, ÍÂ¿ÄÅ¡¾¢Â¡¸×õ þøÄ¡ÁÖõ þÕôÀ£÷¸Ç¡?				
10.	¿£í¸û §ÀÍõÓý ÁüÈÅ÷¸û ¯í¸û §ÀÎ¨° ±ôÀÊ ±ÎòÐì ¦¸¡ûÅ¡÷¸û ±ýÚ ±ñ½¢ÂÐñ¼¡?				

¯½÷î°¢ ¿Äò¾¢Èý

		±ô¦À¡Ø ¾¡ÅÐ	**°¢Ä §¿Ãí¸ Ç¢ø**	**ÀÄ §¿Ãí¸ Ç¢ø**	**±ô¦À¡ ØÐõ**
1.	¯í¸û Å¡úÅ¢ø ¿¼ìÌõ ¿¢¸ú×¸¨Ç þÂøÀ¡É¾¡¸ ±ñ½¢ °¢¡¢ôÀÐñ¼¡?				
2.	¯í¸û ¸Å¨Ä¸¨Ç ÁÈôÀ¾ü¸¡¸ ÁÐ «ÕóÐÅ¨¾ ¾Å¢÷ôÀ£÷¸Ç¡?				
3.	¿£í¸û ¦Åð¸ôÀ¼¡Áø ¯í¸û ±ñ½í¸¨Ç ¦ÅÇ¢ôÀÎòÐÅ£÷¸Ç¡?				
4.	¿£í¸û §¸¡ÀÁ¡¸ þÕìÌõ §À¡Ð ÁüÈÅ÷¸¨Ç «Ð À¡¾¢ì¸¡¾Å¨¸Â¢Öõ, ÒñÀÎò¾¡¾ Å¨¸Â¢Öõ ±ÎòÐ¨ÃÀ£÷¸Ç¡?				
5.	¿£í¸û ±ô§À¡Ðõ ¸Å¨ÄôÀÎÀÅÃ¡?				
6.	¿£í¸û ¯í¸û ÁÉ «Øò¾ ¿¢¨Ä¨Â ¯½÷óÐ «¾¨É «¨Á¾¢ôÀÎòÐõ Å¨¸Â¢ø ²§¾Ûõ ÀÂ¢ü°¢¸û §Áü¦¸¡û¸¢È£÷¸Ç¡?				
7.	¿£í¸û ¯í¸û §Áø ¿ýÁ¾¢ô¨ÀÔõ ¯í¸¨Ç ¿£í¸û ¿õÒÅÐ §À¡ø ÁüÈÅ÷¸¨ÇÔõ ¿õÒÅ£÷¸Ç¡?				

8.	¿£í¸û §°¡¸Á¡É §¿Ãí¸Ç¢ø ÁüÈÅ÷¸Ç¢½õ §ÀÍÅ¨¾Ôõ, «§¾ §¿Ãò¾¢ø «ó¾ §°¡¸Á¡É ¿¢¸ú¨Å Á¡üÚÅ¾ü¸¡É ÓÂü°¢¸¨ÇÔõ §Áü¦¸¡ûÙÅ£÷¸Ç¡?				
9.	¿£í¸û Å¨ÇóÐ ¦¸¡ÎòÐ, ¿øÅÆ¢¨Â ²üÚì¦¸¡ûÙõ ÀñÒ¨½ÂÅÃ¡?				
10.	¯í¸û ¿ñÀ÷¸û ¯í¸¨Ç ¯Ú¾¢Â¡ÉÅ÷, ¯½÷°¢¸¨Ç ¸ðÎôÀÎòÐÀÅ÷ ±ýÚ ¿¢¨Éì¸¢ýÈÉÃ¡?				

¬ýÁ£¸ ¿Äò¾¢È¢ý

		±ô¦À¡Ø ¾¡ÅÐ	**°¢Ä §¿Ãí¸ Ç¢ø**	**ÀÄ §¿Ãí¸ Ç¢ø**	**±ô¦À¡ ØÐõ**
1.	¿£í¸û ¯í¸Ç¢ý Å¡úì¨¸ ´Õ ¯ýɾÁ¡É À¡¢Í ±ýÚ ¿õÒ¸¢È£÷¸Ç¡?				
2.	¿£í¸û ¯í¸¨Ç ÍüÈ¢ þÕìÌõ þÂü¨¸¨ÂÔõ, «Æ¨¸Ôõ Ã°¢ôÀ¾ü¸¡¸ §¿Ãò¨¾ ¦°ÄÅ¢Î¸¢È£÷¸Ç¡?				
3.	¿£í¸û ¯í¸û Å¡úÅ¢ø ±Ð Óì¸¢ÂÁ¡ÉÐ ±ýÚ ¿¢¨Éì¸ §¿Ãõ ¦°ÄÅ¢Î¸¢È£÷¸Ç¡?				
4.	¿£í¸û ¯í¸¨Ç Á£È¢ ¿¼ìÌõ ¦°Âø¸ÙìÌ Óì¸¢ÂòÐÅõ ¦¸¡ÎôÀ¨¾ ¿õÒ¸¢È£÷¸Ç¡?				
5.	¿£í¸û ÁüÈÅ÷¸Ç¢½õ þÕóÐ ±¨¾Ôõ ±¾¢÷À¡÷ì¸¡Áø «Å÷¸Ç¢½õ «ýÒ ¦°ÖòÐÅ£÷¸Ç¡?				

6.	¿£í¸û À¢È÷ ÐýÀôÀÎÅ¨¾ô À¡÷òÐ ÅÕò¾ôÀÎÅ£÷¸Ç¡ §ÁÖõ «Å÷¸ÙìÌ «ó¾ °¢ì¸Ä¡É §¿Ãò¾¢ø ¯¾Å¢ ¦°öÂ ÓÂü°¢ ¦°öÅ£÷¸Ç¡?				
7.	¯í¸ÙìÌ ÁüÈÅ÷¸Ç¢ý Å¡ú¨Å ¿øÅÆ¢Â¢ø ¿¼ò¾ ÓÊÔõ ±ýÈ ¿õÀ¢ì¨¸ ¯ûÇ¾¡?				
8.	¿£í¸û ÁüÈÅ÷¸Ù¼ý ¿øÖÈ¨Å ²üÀÎò¾ ÓÂü°¢¦°öÅ£÷¸Ç¡?				
9.	¿£í¸û ¯í¸û ¿¢¨ÄÂ¢ø ¾¢ÕÔ¾¢¸ÃÁ¡¸ þÕì¸¢È£÷¸Ç¡?				
10.	¿£í¸û ¯í¸û Å¡úì¨¸Â¢ø ÓØ¨Á «¨¼ó¾¾¡¸ ¯½÷ó¾¢Õì¸¢È£÷¸Ç¡?				

fw;gpf;Fk; ghlj;jpl;lk;

jiyg;G : fhyp];jdpf;]; gapw;rp Kiw

gq;F ngWgth;fs; vz;zpf;if : 10 Kjy; 15 egh;fs; tiu . xNu rkak;

fhyk; : 40 epkplq;fs;

,lk; : jdp miw my;yJ ntl;lntsp

ghlKiw : ciuahly; kw;Wk; nra;Kiw

xsp- xyp rhjdq;fs; : tiuglk;

nghJthd Fwpf;Nfhs; :-

ghlj;jpd; Kbtpy; Kjpath;fs; fhyp];jdpf;]; gapw;rp gw;wpa mwpthw;wYk; mjd; nra;KiwAk; ed;whfj; njhp;e;jpUf;f Ntz;Lk;.

Fwpg;gpl;l Fwpf;Nfhs;: KjpNahh;fs;

1. fhyp];jdpf;]; gapw;rp Kiwiag; gw;wpj; njhpe;J nfhs;sNtz;Lk;.
2. fhyp];jdpf;]; gapw;rp Kiwapd; ed;ikfisg; gw;wpj;; njhpe;J nfhs;sNtz;Lk;.
3. gapw;rpapd; NghJ filg;gpbf;;f Ntz;ba tpjp Kiwfs; gw;wpg; Ghpe;J nfhs;sNtz;Lk;..
4. gapw;rpapd; NghJ clypidr; #Nlw;Wjy; kw;Wk; jzpj;jypd; Kf;fpaj;Jtj;ijg; gw;wp mwpe;J nfhs;sNtz;Lk;.
5. gapw;rpfspd; nra;Kiw mwpe;J nfhs;sNtz;Lk;..

t.vz;	Neuk;	Fwpg;gpl;l FwpNfhs;	nghUs;	fw;gpj;jy; kw;Wk; fw;wy; Kiw	Xsp > xyp rhjdq;fs;
1	2 epkplk;	Kd;Diu	**Kd;Diu:-** midtUf;Fk; tzf;fk; ➢ ePz;l ehl;fs; eykha; tho;tjw;F ehk; xt;nthUtUk; ek; md;whl tho;f;if Kiwapy; rpy khw;wq;fis cUthf;f Ntz;Lk; > mitahtdntd;why; rj;Js;s czT > jpdrhp clw;gapw;rp NkYk; cly; vilapidr; rPuhf itj;jy; ➢ KJikapd; NghJ ekJ clypy; gytpj khw;wq;fs; Vw;gLfpwJ. ,k;khw;wq;fspy; ,Ue;J ek;ikf; fhj;Jf;nfhs;s KjpNahh;fs; rpy clw;gapw;rp Kiwfisj; jpdKk; ifahs	Kd;Diu toq;Fjy; vj;jid egu;fs; jpdKk; clw;gapw;rp nra;fpwPu;fs;?	

			Ntz;Lk; ,d;W ehk; fhyp];jdpf;]; clw;gapw;rp Kiw gw;wpj; njhpe;Jnfhs;Nthk;		
t.vz;	**Neuk;**	**Fwpg;gpl;l FwpNfhs;**	**nghUs;**	**fw;gpj;jy; kw;Wk; fw;wy; Kiw**	**Xsp > xyp rhjdq;fs;**

2	5 epkplk;	fhyp];jdpf;]; gapw;rp Kiwiag; gw;wpj; njhpe;J nfhs;Sjy;	**<u>fhyp];jdpf;]; gapw;rp Kiw</u>** ➢ fhyp];jdpf;]; gapw;rp Kiw vd;gJ Fiwthd cgfuzq;fisg; gad;gLj;jpNah my;yJ gad;gLj;jhkNyh > gy;NtW tifahd> Rygkhd rPuhdmirTfisf; nfhz;l gapw;rp KiwahFk;	fhyp];jdpf;]; gapw;rp Kiwia tpthpf;fTk;	
3	5 epkplq;fs;	fhyp];jdpf;]; gapw;rp Kiwapd; ed;ikfisg; gw;wp njhpe;J nfhs;Sjy;	**fhyp];jdpf;]; gapw;rp Kiwapd;; ed;ikfs; :** ➢ fhyp];jdpf;]; gapw;rp Kiwfs; %yk; clypd; jirfs; RUq;fp tphptjhy; > RthrKk; ,uj;j Xl;lKk; rPh;gLj;jg;gl;L Rthrj; jirfSk; cWjpgLj;jg;gLfpwJ. ➢ gS jhq;Fk; gapw;rp Kiwahy; vYk;Gfs; typikahtNjhL > vYk;G KwpT tuhky;	fhyp];jdpf;]; gapw;rp Kiwapd; ed;ikfisg; tpthpf;fTk;	

			jLf;fg;gLfpwJ. ➢ ,e;jg; gapw;rpahy; cly; cWjpAk; cly; Mw;wYk; Cf;Ftpf;fg;gl;L > cly; eyk; rPuhf;fg;gLfpwJ. ➢ ,g;gapw;rpapd; %yk; kd mOj;jk;> kdr;Nrhh;T kw;Wk; Njitaw;w kdgak; rhpnra;ag;gl;L kdeyk; Cf;Ftpf;fg;gLfpwJ. ➢ ,g;gapw;rpid Kiwahfg; gad;gLj;Jtjhy; clypy; cs;s Njitaw;w nfhOg;Gfs; vhpf;fg;gl;L cly; vil rPuhd epiyapy; itf;fg;gLfpwJ.		

			➢ ,g;gapw;rpapdhy; vYk;Gj; jirfs; kw;Wk; ,Ujaj; jirfs; tYtilfpd;wd. ➢ fhyp];jdpf;]; gapw;rpia jpdrhp nra;tjhy; clypy; vjph;g;G rf;jp mjpfhpf;fg;gl;L > gy tpjkhd Neha;fs; tuhky; jLf;fg;gLfpwJ. ➢ ,g;gapw;rpapid jpdrhp nra;jhy; cly; kw;Wk; jir typ; ePq;Ffp;wJ. ➢ fhyp];jhdpf;];]py; cs;s xU rpy gapw;rpfis nra;tjhy; $l ekJ clypd; nkhj;j jirfisAk; clw;gapw;rpapy;		

4.	2 epkplk;	gapw;rpapd; Kd;ghf filgpbf;f Ntz;ba tpjpKiwfs;	<LgLj;jKbAk; ➢ ,Uja jirfs; Cf;Ftpf;fg;gl;L ,Ujaj; Jbg;G mjpfhpg;gjhy; ,Uja eydpy; Kd;Ndw;wk; Vw;gl;L ,Uja Neha;fs; tuhky; jtph;f;fg;gLfpwJ. **tpjpKiwfs;** ➢ ,g;gapw;rpapidj; jpdKk; 30 epkplk; nra;a Ntz;Lk; ➢ mikjpahd ,lj;jpy; gapw;rp nra;a Ntz;Lk; ➢ jpdKk; xNu Neuj;jpy; gapw;rp nra;a Ntz;Lk; ➢ ,Wf;fkhd Milfis jsh;T nra;a Ntz;Lk; **gapw;rpapd; NghJ clypid**	gapw;rpapd; Kd;ghf filgpbf;f Ntz;ba tpjpKiwfis tpsf;fTk;	

5.	3 epkplk;	gapw;rpapd; NghJ clypid R+Nlw;Wjy; kw;Wk; jzpj;jypd; Kf;fpaj;Jtj;ijg; gw;wp mwpe;J nfhs;Sjy;	**R+Nlw;Wjy; kw;Wk; jzpj;jypd; Kf;fpaj;Jtk;** ➢ ekJ cliy mikjp epiyapy; ,Ue;J gapw;rp epiyf;Fk; gapw;rp epiyapy; ,Ue;J mikjp; epiyf;Fk nfhz;L tu clypid R+Nlw;Wjy; kw;Wk; jzpj;jy; ,d;wpaikahjjhf cs;sJ. ➢ gapw;rpapidj; njhlq;Ftjw;F 10 epkplj;jpw;F Kd;ghf> cly; R+Nlw;Wk; gapw;rpiar; nra;a Ntz;Lk;. ➢ gapw;rp Kbe;j gpd;G> nkJthf ele;J cly; ntg;gj;ijj; jzpf;f Ntz;Lk; .cldbahf gapw;rpia epWj;Jtjhy;> clypd; ,uj;j mOj;jk; mjpfkhff; Fiwe;J Kjpath;fSf;Fg; ghjpg;G		

6.	20 epkplk;	fhyp];jdpf;]; gapw;rp nra;Ak; Kiwia njhpe;J nfhs;Sjy;	Vw;gLj;Jk;. NkYk; jirg;gpbg;Gk; Vw;gLfpwJ. **fhyp];jdpf;]; gapw;rp Kiw** **1. cliyr; R+Nlw;Wjy;** gapw;rpiaj; njhlq;Ftjw;F Kd; cliy kpjkhf R+Nlw;w Ntz;Lk;. ,jw;fhf Kjpatu;fs; 5 epkplk; nkJthf elf;f Ntz;Lk;. **2. Njhs;gl;ilia Row;Wjy;** ,g;gapw;rpapd; NghJ Kjpatu;fs; ehw;fhypapy; mkh;e;J Kd; ifia Njhs;gl;ilia Nehf;fp klf;fp Njhs;gl;ilia Kd;Dk; gpd;Dkhf nkJthfr; Row;w Ntz;Lk; ,g;gapw;rpia 5 Kiw tyJGwkhfTk;, ,lJGwkhfTk; nra;a Ntz;Lk;.	fhyp];jdpf;]; gapw;rp nra;Ak; Kiwapid nra;J fhl;Ljy; KjpNahh;fisj; jpUk;g mNj gapw;rpiar; nra;a nrhy;Yjy; . Mrphpah; mth;fs; nra;tJ	

			3. ,Lg;ig Row;Wjy; Kjypy; Neuhf epd;W ,Lg;gpd; kPJ if itf;f Ntz;Lk; . gpd;G nkJthf ,Lg;ig tyJ GwkhfTk; > ,lJ GwkhfTk; Row;w Ntz;Lk; ,g;gapw;rpia 5 Kiw nra;a Ntz;Lk;. **4. fZf;fhiyr; Row;Wjy;** ➢ ehw;fhypapy; Neuhf mkh;e;J xU fhiyj; jiuapy; Cd;wp kWfhiy tyJ GwkhfTk; ,lJ GwkhfTk; Row;w Ntz;Lk; .,g;gapw;rpapid 5 Kiw nra;a Ntz;Lk;. ,U fhy;fSf;Fk; nra;a Ntz;Lk; . **5. Kd;Ndhf;fpf; Fdpjy;** ➢ ,g;gapw;rpia Neuhf epd;W	rhpah vd;W ftdpf;fTk;	

			Kl;bia klf;fhky; Kd;Ndhf;fpf; Fdpe;J nra;aNtz;Lk;. ,g;gapw;rpia 5 Kiw nra;a Ntz;Lk;. **6. gf;fthl;by; rha;jy;** Neuhf epd;W cliy xU GwkhfTk; “C” tbtj;jpy; tisf;f Ntz;Lk;. ,g;gbNa 10 nehbfs; tiu epw;f Ntz;Lk;. mNj kw;nwhU gf;fKk; cliy tisf;f Ntz;Lk; **7. cliyj; jzpj;jy;** filrpahf cliyj; jzpf;f Ntz;Lk;. ,jw;fhf Kjpatu;fs; 5 epkplk; nkJthf elf;f Ntz;Lk; **KbTiu**		

7 8.	2 epkplq;fs; 3		,J tiu ehk; fhyp];jdpf;]; gapw;rpapidg; gw;wpAk; mij vt;thW nra;a Ntz;Lk; vd;gjidg; gw;wpAk; njhpe;J nfhz;Nlhk; **filgpbf;f Ntz;baJ :** ,g;gapw;rpapidj; jpdKk; khiyapy; 5 kzp Kjy; 5.30 kzp tiu> 30 epkplq;fs; njhlh;e;J 30 ehl;fSf;F nra;a Ntz;Lk;		

	epkplq;fs;				

CERTIFICATE FOR ENGLISH EDITING

This is to certify that the study done by Ms. P. Jayanthi, M.Sc. Nursing II year student, R.V.S. College of Nursing, Sulur, and Coimbatore on the topic of

"A Study to Assess the Effect of Selected Calisthenics on Quality of Sleep and Wellbeing among Old age People in a selected Old age Home at Coimbatore"

Is edited and the content is reviewed by the undersigned authority.

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Seal

Date : 02/02/12.

Phone: 2392489
Cell: 98433-29979

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KAMARAJ ROAD, COIMBATORE - 641 015

Prop : **A. PREMKUMAR,** B.A., Ex-Vice President: **P. AYYASWAMY** "Mr. Tamilnadu 1969"
"National Power Lifter - Gold Medalist 1998"

Ref:

Date 25.05.2011

TO WHOM SO EVER IT MAY CONCERN

This is to certify that Ms.P.JAYANTHI, Msc(N) is eligible to provide CALISTHENICS exercise as she has undergone training for performing calisthenics exercise.

For GLOBAL FITNESS CENTRE

Proprietor

Signature

A. PREM KUMAR.

Seal

APPENDIX X

PLAGIARISM REPORT USING THE SOFTWARE 'VIPER'

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